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DEPARTMENT OF THE ARMY JUSTIFICATION OF ESTIMATES FOR FISCAL YE--ETC(U)
JAN 79

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DEPARTMENT OF THE ARMY

JUSTIFICATION OF ESTIMATES FOR FISCAL YEAR 1980

SUBMITTED TO CONGRESS

JANUARY 1979



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REPORT DOCUMENTATION PAGE		READ INSTRUCTIONS BEFORE COMPLETING FORM
1. REPORT NUMBER	2. GOVT ACCESSION NO.	3. RECIPIENT'S CATALOG NUMBER
4. TITLE (and Subtitle) (In 5 parts) Department of the Army Justification of Estimates for Fiscal Year 1980, Submitted to Congress Jan- uary 1979, Procurement Programs, Aircraft, Missiles, Weapons, Tracked Combat Vehicles, Ammunition and Other Procurement, Army		5. TYPE OF REPORT & PERIOD COVERED Army Procurement Budget Justification, FY 1980
6. AUTHOR(s) Department of the Army Weapons and Combat Vehicles		7. PERFORMING ORG. REPORT NUMBER Part 1 thru 5 8. CONTRACT OR GRANT NUMBER(s) Other Procurement
9. PERFORMING ORGANIZATION NAME AND ADDRESS HQDA, Office of the Deputy Chief of Staff for Research, Development, and Acquisition(DAMA-PPP-B) Washington, DC 20310		10. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS
11. CONTROLLING OFFICE NAME AND ADDRESS HQDA, Office of the Deputy Chief of Staff for Research, Development, and Acquisition(DAMA-AOA-S) Washington, DC 20310		12. REPORT DATE January 1979
14. MONITORING AGENCY NAME & ADDRESS (if different from Controlling Office) 12 446p.		13. NUMBER OF PAGES 454 (includes all 5 parts)
		15. SECURITY CLASS. (of this report) UNCLASSIFIED
		15a. DECLASSIFICATION/DOWNGRADING SCHEDULE
16. DISTRIBUTION STATEMENT (of this Report) Approved for public release; distribution unlimited.		
17. DISTRIBUTION STATEMENT (of the abstract entered in Block 20, if different from Report)		
18. SUPPLEMENTARY NOTES		
19. KEY WORDS (Continue on reverse side if necessary and identify by block number) Army Procurement Programs Budget Justification Book covering Aircraft, Missiles, Weapons and Tracked Combat Vehicles, Ammunition and Other Procurement, Army Appropriations programs submitted by the Army to Congress January 1979 for Fiscal Year 1980.		
20. ABSTRACT (Continue on reverse side if necessary and identify by block number) In justification of programs requested, this document, in a separate volume for each of the five Procurement Appropriations, provides backup data for the Army Budget submission for FY 1980. Included are Summaries of Requirements, Program and Financing Statements and Selected Data Sheets. (This document has been declassified for NTIS distribution.)		

DEPARTMENT OF THE ARMY
Office of the Deputy Chief of Staff
For
RESEARCH, DEVELOPMENT AND ACQUISITION

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79 02 26 232

22 January 1979

DEPARTMENT OF THE ARMY
PROCUREMENT APPROPRIATIONS

Justification of Estimates for Fiscal Year 1980, 81 (Auth only)

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Department of the Army
Aircraft Procurement, Army

Justification of Estimates for Fiscal Year 1980, 1981

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AIRCRAFT PROCUREMENT, ARMY

Section 1

Budget Appendix Extract

Language

Program and Financing Schedule

Object Classification Schedule

APPROPRIATION LANGUAGE

For construction, procurement, production, modification and modernization of aircraft, equipment, including ordnance, ground handling equipment, spare parts, and accessories therefor; specialized equipment and training devices; expansion of public and private plants, including the land necessary therefor, without regard to section 4774, title 10, United States Code, for the foregoing purposes, and such lands and interests therein, may be acquired, and construction prosecuted thereon prior to approval of title as required by section 355, Revised Statutes, as amended; and procurement and installation of equipment, appliances, and machine tools in public and private plants; reserve plant and Government and contractor-owned equipment layaway; and other expenses necessary for the foregoing purposes; [\$949,709,000], \$946,400,000, to remain available (1) for obligation until September 30, [1981] 1982. (2)

(10 U.S.C. 2353, 3012, 4531, 4532, 31 U.S.C. 649c; Department of Defense Appropriation Act, 1979; additional authorizing legislation to be proposed.)

EXPLANATION OF LANGUAGE CHANGES

- (1) To change the amount of appropriation requested for FY 1980.
- (2) To change the obligation expiration date for the FY 1980 program.

Army

Aircraft Procurement, Army

22 JAN 79

Program and Financing (in thousands of dollars)

Identification code	21-2031-0-1-051	Budget plan (amounts for procurement actions programmed)				Obligations	
		1978 actual		1979 est.		1978 actual	1980 est.
Program by activities:							
Direct:							
1. Aircraft							
2. Modification of aircraft							
3. Spares and repair parts							
4. Support equipment and facilities							
Total direct		360,612	509,406	355,800	341,865	440,821	349,914
Reimbursable program (total)		190,560	297,200	412,200	189,517	289,674	419,107
		65,700	66,903	71,500	65,396	67,376	72,850
		41,828	76,200	76,900	49,989	76,242	73,960
Total		658,700	949,709	946,400	646,769	874,118	915,731
		76,755	75,000	83,900	67,279	29,687	118,209
		735,455	1,024,709	1,030,300	714,048	904,006	1,034,000
Financing:							
Offsetting collections from:							
Federal funds							
Trust funds							
Non-federal sources							
Unobligated balance available, start of year:		-43,674	-20,100	-36,900	-38,388	-16,200	-36,900
For completion of prior year budget plans		-32,133	-54,900	-47,000	-29,933	-53,700	-47,000
Available to finance new budget plans		-948			-1,189		
Reprogramming from or to prior year budget plans		-2,600			-182,941	-182,622	-238,231
Unobligated balance transferred from other accounts		-14,501			-2,600		
Unobligated balance transferred to other accounts		-2,600			-2,600		
Unobligated balance		3,528			3,528		
Unobligated balance available, end of year:					187,622	298,231	294,531
For completion of prior year budget plans		13,573			13,573		
Unobligated balance lapsing		656,100	949,709	946,400	656,100	949,709	946,400
Budget authority							
Budget authority:							
Appropriation							
Transferred to other accounts							
Appropriation (adjusted)							
Relation of obligations to outlays:							
Obligations incurred, net							
Obligations incurred, start of year							
Obligations incurred, end of year							
Adjustments in expired accounts							
Outlays							

Army

Aircraft Procurement, Army

22 JAN 79

Object Classification (in thousands of dollars)

Identification code	21-2031-0-1-051	1978 actual	1979 est.	1980 est.
Direct obligations:				
21.0	Travel and transportation of persons	48		
22.0	Transportation of things	271		
25.0	Other services:			
	Other	35,441	42,365	47,654
26.0	Supplies and materials	75,349	88,477	99,470
31.0	Equipment	535,660	743,071	768,607
	Total direct obligations	646,769	874,113	915,731
Reimbursable obligations:				
22.0	Transportation of things	37		
25.0	Other services:			
	Other	3,910	5,964	5,910
26.0	Supplies and materials	8,064	12,624	12,510
31.0	Equipment	55,368	11,239	99,849
	Total reimbursable obligations	67,279	29,887	118,269
99.0	Total obligations	714,048	904,000	1,034,000

Army Aircraft Procurement, Army 22 JAN 79

Program and Financing (in thousands of dollars) 1970 Fiscal year program

Identification code 21-2031-0-1-051

Budget plan (amounts for procurement actions programmed)		Obligations	
1978 actual	1979 est.	1978 actual	1979 est.
Program by activities:			
Direct:			
1. Aircraft		2,604	
2. Modification of aircraft		14,551	
3. Spares and repair parts		4,235	
4. Support equipment and facilities		5,265	
Total direct		26,655	
Reimbursable program (total)		3,057	
10.00 Total		29,712	
Financing:			
Offsetting collections from:			
11.00 Federal funds		2,402	
13.00 Trust funds		2,630	
21.40 Unobligated balance available, start of year:			
For completion of prior year budget plans		-46,033	
Reprogramming from or to prior year budget plans			
23.40 Unobligated balance transferred to other accounts	776		
25.00 Unobligated balance lapsing	10,514	776	
Budget authority		10,514	

Army		Aircraft Procurement, Army		22 JAN /9	
		Program and Financing (in thousands of dollars)		1971 fiscal year program	
Identification code		21-2031-0-1-051		Obligations	
		Budget plan (amounts for procurement actions programmed)		1978 actual 1979 est 1980 est	
		1978 actual 1979 est 1980 est		1978 actual 1979 est 1980 est	
Program by activities:					
Direct:					
1. Aircraft					
2. Modification of aircraft					
3. Spares and repair parts					
4. Support equipment and facilities					
Total direct					
Reimbursable program (total)					
10.00	Total	3,163	4,072	1,165	434
		8,697	298		
		0,185			
Financing:					
Offsetting collections from:					
Federal funds					
Trust funds					
Unobligated balance available, start of year:					
For completion of prior year budget plans					
Reprogramming from or to prior year budget plans					
Unobligated balance transferred to other accounts					
Unobligated balance lapsing					
Budget authority					
11.00		1,774	1,000		
13.00					
21.40		-15,170			
23.40					
25.00		152	3,059		

22 JAN 79

Aircraft Procurement, Army

Army

Program and Financing (in thousands of dollars)				1977 Fiscal year program	
				Obligations	
Identification code	21-2031-0-1-051	Budget plan (amounts for procurement actions programmed)			
		1978 actual	1979 est.	1979 actual	1980 est.
Program by activities:					
Direct:					
1.	Aircraft			9,477	8,895
2.	Modification of aircraft			36,129	19,574
3.	Spare and repair parts			8,178	6,116
4.	Support equipment and facilities			12,214	7,242
Total direct				65,998	41,827
Reimbursable program (total)				5,818	3,575
10.00	Total			71,816	45,402
Financing:					
Offsetting collections from:					
11.00	Federal funds			1,110	3,900
13.00	Trust funds			-1,450	1,200
14.00	Non-federal sources			-241	
21.40	Unobligated balance available, start of year:				
	For completion of prior year budget plans			-121,738	-50,502
	Available to finance new budget plans			-2,300	
23.40	Unobligated balance transferred to other accounts			2,300	
24.40	Unobligated balance available, end of year:				
	For completion of prior year budget plans			50,502	
Budget authority					

Army		Aircraft Procurement, Army		22 JAN 79	
Identification code		21-2031-0-1-051		1978 Fiscal year program	
		Program and Financing (in thousands of dollars)		Obligations	
		Budget plan (amounts for procurement actions programmed)			
		1978 actual	1979 est.	1978 actual	1979 est.
		1980 est.	1980 est.	1980 est.	1980 est.
Program by activities:					
Direct:					
1. Aircraft					
2. Modification of aircraft					
3. Spares and repair parts					
4. Support equipment and facilities					
Total direct					
Reimbursable program (total)					
Total					
Financing:					
Offsetting collections from:					
Federal funds					
Trust funds					
Non-federal sources					
Unobligated balance available, start of year:					
For completion of prior year budget plans					
Unobligated balance transferred from other accounts					
Unobligated balance available, end of year:					
For completion of prior year budget plans					
Budget authority					
Budget authority:					
Appropriation					
Transferred to other accounts					
Appropriation (adjusted)					

Army		Aircraft Procurement, Army		22 JAN 79		
		Program and Financing (in thousands of dollars)		1979 Fiscal year program		
Identification code 21-2031-0-1-051		Budget plan (amounts for procurement actions programmed)		Obligations		
		1978 actual	1979 est.	1980 est.	1979 est.	1980 est.
Program by activities:						
Direct:						
1. Aircraft						
		509,406			422,626	29,816
	2. Modification of aircraft	297,200			246,700	17,981
	3. Spares and repair parts	66,903			55,500	6,100
	4. Support equipment and facilities	76,200			63,200	6,900
	Total direct	949,709			788,026	60,797
	Reimbursable program (total)	75,000			19,950	43,050
10.00	Total	1,024,709			807,976	103,847
Financing:						
Offsetting collections from:						
11.00	Federal funds	-20,100			-20,100	
13.00	Trust funds	-54,900			-54,900	
21.40	Unobligated balance available, start of year:					-216,733
	For completion of prior year budget plans					
24.40	Unobligated balance available, end of year:				216,733	112,886
	For completion of prior year budget plans					
	Budget authority	949,709			949,709	

22 JAN 79

Aircraft Procurement, Army

Program and Financing (in thousands of dollars)

Identification code	21-2031-0-1-051	Budget plan (amounts for procurement actions programmed)		1980 Fiscal year program Obligations	
		1978 actual	1979 est.	1978 actual	1979 est.
Program by activities:					
Direct:					
1.	Aircraft	355,800			295,314
2.	Modification of aircraft	442,200			368,723
3.	Spares and repair parts	71,500			58,630
4.	Support equipment and facilities	76,900			63,058
	Total direct	946,400			785,730
	Reimbursable program (total)	83,900			62,925
	Total	1,030,300			848,655
Financing:					
Offsetting collections from:					
11.00	Federal funds	-36,900			-36,900
13.00	Trust funds	-47,000			-47,000
24.40	Unobligated balance available, end of year:				
	For completion of prior year budget plans				181,645
	Budget authority	946,400			946,400

AIRCRAFT PROCUREMENT, ARMY

Section 2

Introductory Statement

1-11 - 1/22/79

DEPARTMENT OF THE ARMY
ANNUAL BUDGET ESTIMATES

Appropriation:	FY 1980, 81
Aircraft Procurement, Army	Budget
Section 2 - INTRODUCTORY STATEMENT	

This appropriation finances the acquisition of tactical and utility airplanes and helicopters, including associated electronics and communications equipment and armament; modification of in-service aircraft; ground support equipment; and depot repairable assemblies, components and repair parts such as spare engines, transmissions and gear boxes. It also funds related production base support.

The FY 1980 and 1981 programs provide for increased ground forces mobility through procurement of the UH-60A BLACK HAWK helicopter. It also provides increased helicopter antiarmor fire power through acquisition of the Advanced Attack Helicopter in FY 81.

AIRCRAFT PROCUREMENT, ARMY

Section 3

Summary of Requirements

1-13 - 1/22/79

SUMMARY OF REQUIREMENTS (In Thousands of Dollars)			
Appropriation:	FY 1978 Actual	FY 1979 Estimate	FY 1980 Estimate
Aircraft Procurement, Army			
Aircraft	360,912	509,406	355,800
Modification of Aircraft	190,260	297,200	442,200
Spares and Repair Parts	65,700	66,903	71,500
Support Equipment and Facilities	41,828	76,200	76,900
Total Direct Program	658,700	949,709	946,400
Reimbursable Program	76,755	75,000	83,900
TOTAL PROGRAM REQUIREMENTS	735,455	1,024,709	1,030,300
Less: Portion of program to be obligated in subsequent fiscal years	132,120	216,733	181,645
Plus: Obligations incurred against prior year program funds	110,713	96,024	185,345
TOTAL OBLIGATIONS	714,048	904,000	1,034,000

SUMMARY OF REQUIREMENTS (In Thousands of Dollars)	
Appropriation	FY 1981 Estimate
Aircraft Procurement, Army	
Aircraft	648,800
Modification of Aircraft	355,700
Spares and Repair Parts	108,400
Support Equipment and Facilities	130,000
Total Direct Program	1,242,900

AIRCRAFT PROCUREMENT, ARMY

Section 4

Budget Activity Justifications

Activity 1 - Aircraft

Activity 2 - Modification of Aircraft

Activity 3 - Spares and Repair Parts

Activity 4 - Support Equipment and Facilities

Department of the Army Annual Budget Estimates JUSTIFICATION	Appropriation Aircraft Procurement, Army	FY 1980 Budget	
		(In Thousands of Dollars)	
		Actual Fiscal Year 1978	Estimate Fiscal Year 1979 Fiscal Year 1980
Budget Program or Budget Project Account			
Activity 1 - Aircraft			
Direct Obligations or Direct Budget Plan			
Direct Obligation		\$ 360,912	\$ 509,406 \$ 355,800

FORMAT J

Section 1 - PURPOSE AND SCOPE

Provides for procurement and manufacture of airplanes, helicopters and associated aircraft armament and avionics equipment.

Section 2 - JUSTIFICATION OF FUNDS REQUESTED

This program provides for a quantity of 145 utility helicopters to meet combat, tactical training and combat support needs of the Army.

Helicopter, BLACK HAWK - \$338.9 million is requested for procurement of 145 UH-60A BLACK HAWK helicopters. In addition \$16.9 million is requested for advance procurement of long leadtime engines. This utility helicopter is the Army's first true squad carrying helicopter and is produced by Sikorsky Aircraft, Stratford, Connecticut. The BLACK HAWK is powered by two T-700 engines produced by General Electric Company, Lynn, Massachusetts. The BLACK HAWK will modernize the Army's utility helicopter fleet and will enhance tactical mobility with increased speed, lifting capacity, range, reliability, availability, maintain-ability and survivability at reduced overall operating costs.

Department of the Army Annual Budget Estimates JUSTIFICATION	Appropriation Aircraft Procurement, Army (In Thousands of Dollars)	FY 1980 Budget
		Estimate Fiscal Year 1981
Budget Program or Budget Project Account		
Activity 1 - Aircraft		
Direct Obligations or Direct Budget Plan Direct Obligations		\$ 648,800

Section 1 - PURPOSE AND SCOPE

Provides for procurement and manufacture of airplanes, helicopters and associated aircraft armament and avionics equipment.

Section 2 - JUSTIFICATION OF FUNDS REQUIRED

This program provides for a quantity of 163 attack and utility helicopters to meet combat, tactical training and combat support needs of the Army.

Helicopter, BLACK HAWK - \$332.6 million is requested for procurement of 145 UH-60A BLACK HAWK helicopters. In addition, \$15.2 million is requested for advance procurement of long leadtime engines and radios. This utility helicopter is the Army's first true squad carrying helicopter. BLACK HAWK will be produced by Sikorsky Aircraft, Stratford, Connecticut. The BLACK HAWK will be powered by two T-700 engines produced by General Electric Company, Lynn, MA. The BLACK HAWK will modernize the Army's utility helicopter fleet and will enhance tactical mobility with increased speed, lifting capacity, range, reliability, availability, maintainability and survivability at reduced overall operating costs.

Helicopter, Advanced Attack - \$301.0 million is requested for procurement of 18 Advanced Attack Helicopters. The AH-64 is a twin engine, two place, fully integrated anti-armor weapon system capable of killing tanks and other armored vehicles under day/night and adverse conditions. The aircraft will employ the HELFIRE laser seeking anti-tank missiles. Target acquisition and guidance will be accomplished by a sophisticated electro-optical laser and sensor package that will provide extremely accurate fires with high first round hit capability. The mobility and flexibility of the system coupled with its immediate responsiveness and integration with the ground commander will ensure a significant qualitative edge in being able to blunt a Warsaw Pact armor attack.

FORMAT J

Department of the Army Annual Budget Estimates JUSTIFICATION	Appropriation		FY 1980	
	Aircraft Procurement, Army		Budget	
	(In Thousands of Dollars)			
	Actual Fiscal Year 1978	Estimate Fiscal Year 1979	Fiscal Year 1980	
Budget Program or Budget Project Account				
Activity 2 - Modification of Aircraft				
Direct Obligations or Direct Budget Plan				
Direct Obligations	\$ 190,560	\$ 297,200	\$ 442,200	

Section 1 - PURPOSE AND SCOPE

Provides for modification of items procured by the appropriation Aircraft Procurement, Army, including modification kits but excluding installation unless the item is furnished to a manufacturer who provides parts and labor under a single contract (excluding normal GFE) resulting in an end item reconfigured to a new series designation or new operational capability.

Section 2 - JUSTIFICATION OF FUNDS REQUESTED

\$442.2 million is requested for modification of in-service aircraft and related equipment to improve flight safety, increase operational capability and extend their useful life. Funds are requested for major modification programs for the following aircraft: OV-1 MOHAWK airplanes, RV-1 (QUICKLOOK) airplanes, AH-1 COBRA helicopters, CH-47 CHINOOK CH-54 TARHE, and OH-58 KIOWA helicopters. The OV-1 modification request for \$44.2 million includes \$5.8 million to continue the OV-1B/C to OV-1D conversion, \$6.9 million for improvements to the AN/APS-94 Airborne Radar Surveillance Set, \$19.6 million for UPD-2 data transmission improvement and \$11.9 million for other improvements to the OV-1 airplane. \$2.4 million is requested to complete the RU-21 (GUARDRAIL) airborne signal intelligence aircraft program. \$11.6 million is requested for the RV-1D (QUICKLOOK) airplane including \$9.0 million to convert 4 aircraft to the QUICKLOOK configuration, \$1.8 million for hot metal plus plume suppressor and \$.8 million for other modifications. \$1.5 million is requested to equip U-21 aircraft with new weather radar equipment. \$276.4 million is requested for the AH-1 COBRA helicopter including \$256.5 million to continue conversion of 160 AH-1G to AH-1S of a total 372 to be converted for an increased anti-tank capability, \$19.9 million is requested for aircraft survivability equipment. The CH-47 request of \$59.3 million includes \$10.8 million for T55 engine improvements, and \$21.1 million for fiberglass rotor blades for the CH-47C and \$27.4 million to begin the Modernization program to convert the CH-47 fleet to the CH-47D configuration. \$.1 million is requested for an improved anti-collision light for the CH-54 aircraft. \$18.8 million is requested for EH-1 modifications including \$14.4 million to modify 5 UH-1 helicopters to the EH-1 Phase II QUICK FIX system, \$1.8 million for radar warning receivers, and 2.6 for other modifications. \$14.5 million is requested to begin integration of QUICK FIX II mission equipment to the EH-60 configuration. \$10.5 million is requested for the OH-58 including \$2.7 million for improved tail rotor system, \$1.7 million for airframe/defrost system kits and \$6.1 million for nap-of-the-earth (NOE) communications. \$2.9 million is requested for modifications to various avionics equipment items.

NOTE: Details of aircraft modifications to include the type and number of each to be modified, cost and description of the modifications are included in Section 8, Modification of Aircraft.

Department of the Army Annual Budget Estimates JUSTIFICATION	Appropriation		FY 1980
	Aircraft Procurement, Army		Budget
	(In Thousands of Dollars)		
Budget Program or Budget Project Account		Estimate	
Activity 2 - Modification of Aircraft		Fiscal Year 1981	
Direct Obligations or Direct Budget Plan			
Direct Obligations		\$	355,700

Section 1 - PURPOSE AND SCOPE

Provides for modification of items procured by the appropriation Aircraft Procurement, Army including modification kits but excluding installation unless the item is furnished to manufacturer who provides parts and labor under a single contract (excluding normal GFE) resulting in an end item reconfigured to a new series designation or new operational capability.

Section 2 - JUSTIFICATION OF FUNDS REQUESTED

\$355.7 million is requested for modification of in-service aircraft and related equipment to improve flight safety, increase operational capability, and extend their useful life. Funds are requested for major modification programs for the following aircraft: OV-1 MOHAWK airplanes, RV-1 (QUICK LOOK) airplanes, AH-1 COBRA attack helicopters, CH-47 CHINOOK cargo helicopter, EH-60 (QUICK FIX) electronic helicopters, and OH-58 KOWA observation helicopters. \$11.4 million is requested to continue OV-1 airframe and electronic modifications initiated in prior years. \$2.6 million is requested for RU-21 modifications. \$7.2 million is for continuing prior year efforts on RV-1 QUICK LOOK aircraft survivability equipment, and \$8.8 million begins an aircraft services life extension program with 2 RV-1 aircraft. \$114.9 million is requested for the AH-1 including \$100.4 million for 64 AH-1G to S conversion and \$14.0 million for survivability equipment. \$176.0 million is requested for the CH-47 including \$12.5 million for engine improvements, \$22.1 million for fiberglass rotor blades, and \$168.8 million to continue the program which converts CH-47 aircraft to the CH-47D configuration. \$5.5 million is requested for EH-1 QUICK FIX modification, and \$3.2 million for aircraft survivability equipment modifications. The EH-60 request of \$2.3 million continues the QUICK FIX Phase 1A to 1B mission system integration on the BLACK HAWK aircraft. \$19.7 million is requested for the OH-58 including \$2.5 million for an improved tail rotor system, \$2.1 million for an airframe/defrost system, and \$15.1 million for nap-of-the-earth (NOE) communications modifications. \$2.5 million is requested to continue the modification of avionics equipment and other aircraft. \$1.6 million is requested for U-21 modifications.

FORMAT J

Department of the Army Annual Budget Estimates JUSTIFICATION	Appropriation Aircraft Procurement, Army			FY 1980 Budget
	(In Thousands of Dollars)			
	Actual Fiscal Year 1978	Estimate		
		Fiscal Year 1979	Fiscal Year 1980	
Budget Program or Budget Project Account				
Activity 3 - Spares and Repair Parts				
Direct Obligations or Direct Budget Plan Direct Obligations	\$ 65,700	\$ 66,903	\$	71,500

Section 1 - PURPOSE AND SCOPE

Provides for procurement of depot reparable spares and repair parts including provisioning (initial issue), replenishment, mobilization reserve, and avionics spares.

Section 2 - JUSTIFICATION OF FUNDS REQUESTED

This program provides for centrally managed, high dollar value, depot reparable spares and repair parts such as engines, transmissions, and gear boxes. Due to the high dollar value of these components, they are intensively managed. The \$71.5 million requested for FY 80 consists of \$45.4 million for procurement of initial provisioning for support of procurement and modification programs; \$25.8 million for replenishment components, including aircraft peculiar armament and avionics items for all Army aircraft; and \$.3 million to procure avionics spares. Spares and repair parts funding supports an Army fleet of approximately 750 fixed wing and 8000 rotary wing aircraft.

Department of the Army Annual Budget Estimates JUSTIFICATION	Appropriation		FY 1980
	Aircraft Procurement, Army		Budget
	(In Thousands of Dollars)		
Budget Program or Budget Project Account		Estimate	
Activity 3 - Spares and Repair Parts		Fiscal Year 1981	
Direct Obligations or Direct Budget Plan Direct Obligations			\$ 108,400

Section 1 - PURPOSE AND SCOPE

Provides for procurement of depot reparable spares and repair parts including provisioning (initial issue), replenishment, mobilization reserve, and avionics spares.

Section 2 - JUSTIFICATION OF FUNDS REQUESTED

This program provides for centrally managed, high dollar value, depot reparable spares and repair parts such as engines, transmissions and gear boxes. Due to the high dollar value of these components, they are intensively managed. The \$108.4 million required in FY 1981 consists of \$69.9 million for procurement of initial provisioning in support of aircraft procurement programs; \$35.3 million for replenishment components, including aircraft peculiar armament and avionics for all Army aircraft, and \$3.2 million to procure avionics spares. Spare and Repair Parts funding supports an Army fleet of approximately 750 fixed wing and 8000 rotary wing aircraft.

FORMAT J

Department of the Army Annual Budget Estimates JUSTIFICATION	Appropriation Aircraft Procurement, Army		FY 1980
	(In Thousands of Dollars)		Budget
	Actual Fiscal Year 1978	Estimate Fiscal Year 1979	Fiscal Year 1980
Budget Program or Budget Project Account			
Activity 4 - Support Equipment and Facilities			
Direct Obligations or Direct Budget Plan			
Direct Obligations	\$ 41,828	\$ 76,200	\$ 76,900

Section 1 - PURPOSE AND SCOPE

Provides for avionics support equipment including air traffic control equipment, avionics communications equipment and avionics maintenance shelters; for common ground equipment including tool sets, shop sets and components thereof, ground handling/servicing equipment, special test and diagnostic equipment, flight simulators and other support equipment; for component improvement; for industrial facilities and for other production charges.

Section 2 - JUSTIFICATION OF FUNDS REQUESTED

The estimate for this activity is comprised of the following items: (In Millions of Dollars)

Line Item	FY 80
Avionics Support Equipment	\$11.2
Common Ground Equipment	32.8
Component Improvement	8.7
Industrial Facilities	16.1
Depot Rebuild Facilities Equipment	1.0
Other Production Charges	7.1
ACTIVITY TOTALS	\$76.9

Avionics Support Equipment - \$11.2 million is requested for the procurement of radar warning receiver, AN/APR-39V2 (\$7.8 million) manpack visual facility, AN/TSQ-97 (\$4.9 million), and flight coordination central, AN/TSC-61A (\$2.5 million). This equipment will be issued to tactical units and fill shortages in the Army acquisition objective (AAO).

Common Ground Equipment - \$32.8 million is requested for the following categories of materiel. (In Millions of Dollars)

	FY 80
Tool and Shop Sets	\$ 3.6
Ground Handling/Servicing Equipment	1.5
Flight Simulators	16.8
Other Miscellaneous Equipment	10.9
TOTAL COMMON GROUND EQUIPMENT	\$32.8

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Department of the Army Annual Budget Estimates		FY 1980
JUSTIFICATION		
Appropriation	Budget Program or Budget Project Account	
Aircraft Procurement, Army	Activity 4 - Support Equipment and Facilities	
<p>This program provides for tool and shop sets required to fill shortages, replace obsolete equipment and implement the three level maintenance concept. Ground handling/servicing equipment provides for the acquisition of mobile engine test stand adapter kits and auxiliary power units.</p> <p>\$16.8 million is requested to procure 2 CH-47 Flight Simulator, 2B31 which has a visual display system and will simulate nap-of-the earth and night flight.</p> <p>In the category of other miscellaneous equipment, \$1.0 million is requested for radar improvements at fixed Army airfields, \$2.1 million for support items costing less than \$900,000 each, \$5.3 million for radiological survey equipment AN/ADR-6, \$1.4 million for survival radios AN/PRC-90 and \$1.1 million for battery maintenance facilities AN/TSM-133.</p> <p>Component Improvement - \$7.5 million is requested for the T700 engine used in the UH-60A and YAH-64 helicopters. This funding will provide for solving reliability problems which can be expected in field use that have not been previously noted in test cell testing. It will also continue on-going programs to increase engine durability, particularly in the gas producer turbine section, and continue the low cycle fatigue and mission profile testing. The latter program is to keep test engine hours well ahead of the initial fielded fleet for early identification of potential problems. In addition \$1.2 million of the FY 80 request is for the T55 engine used in the CH-47 fleet. A portion of the program is to verify the reliability of the current hardware changes in the T55-L-712 engine prior to the time the CH-47C engines are converted to that configuration beginning in FY 81. It will also continue ongoing programs started as a result of test and service-revealed deficiencies to qualify additional T55 engine components to make improvements which will result in reduced operations and support cost.</p> <p>Industrial Facilities - \$16.1 million is requested including \$6.7 million for the Provision of Industrial Facilities (PIF), and \$9.4 million for Manufacturing Methods and Technology (MM&T). The PIF request includes \$2.1 million for industrial plant equipment for manufacture of blisks and impellers to support T700 engines production. Benefits are improved quality, reduced operator skills and lower cost. The remaining \$4.6 million finances two projects including \$4.2 million for rehabilitation efforts at the Stratford Army Engine Plant (Avco Lycoming) and \$.4 million for preparation of concept/final design specifications for construction at the Avco Lycoming plant. The MM&T request supports 22 separate projects including \$.6 million for various turbine engine projects, \$.83 million for projects related to rotor blades, composite structures, high performance gears, and improved methods of forging and casting, and \$.5 million for 4 projects related to Military Adaptation of Commercial Items (MACI).</p> <p>Other Production Charges - \$7.1 million is requested for procurement of 2.75 Rocket Light Weight Launchers for the AH-1S COBRA/TOW attack helicopter.</p> <p>Depot Rebuild Facilities Equipment - \$1.0 million is requested to upgrade CONUS and overseas depot facilities Missile Automatic Test Equipment (MATE) to diagnose and repair the COBRA/TOW telescopic sight unit at the servicing depot rather than return the equipment to the contractor for repair.</p>		

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Department of the Army Annual Budget Estimates JUSTIFICATION	Appropriation Aircraft Procurement, Army (In Thousands of Dollars)	FY 1980 Budget
Budget Program or Budget Project Account		
Activity 4 - Support Equipment and Facilities		Estimate Fiscal Year 1981
Direct Obligations or Direct Budget Plan Direct Obligations		\$ 130,000
Section 1 - PURPOSE AND SCOPE		
<p>Provides for avionics support equipment including air traffic control equipment, for common ground equipment including tool sets, shop sets and components thereof, ground handling/servicing equipment, flight simulators and other support equipment; for component improvement; for industrial facilities; and for other production charges.</p>		
Section 2 - JUSTIFICATION OF FUNDS REQUESTED		
<p>The estimate for this activity is comprised of the following items: (In Millions of Dollars)</p>		
Line Item	FY 1981	
Avionics Support Equipment	\$ 17.1	
Common Ground Equipment	75.1	
Component Improvement	13.1	
Industrial Facilities	18.3	
Depot Rebuild Facilities Equipment	.3	
Other Production Charges	6.1	
ACTIVITY TOTALS	\$130.0	
<p>Avionics Support Equipment - \$17.1 million is requested for the procurement of air traffic control facility, AN/TSW-7A (\$10.7 million), flight coordination central AN/TSC-61 (\$2.8 million) and other items (\$3.6 million). This equipment will be issued to tactical units and partially fill shortages in the Army acquisition objective (AAO).</p>		

Department of the Army Annual Budget Estimates		FY 1980
JUSTIFICATION		Budget
Appropriation	Budget Program or Budget Project Account	
Aircraft Procurement, Army	Activity 4 - Support Equipment and Facilities	
Common Ground Equipment - \$75.1 million is requested for the following categories of materiel (In Millions of Dollars)		
		FY 1981
Tools and Shop Sets		\$ 5.7
Ground Handling/Servicing Equipment		4.7
Flight Simulators		54.4
Other Miscellaneous Equipment		10.3
	TOTAL COMMON GROUND EQUIPMENT	\$75.1
This program continues prior efforts to upgrade aviation support at user and maintenance sites and provides \$5.7 million for tool and shop sets. \$4.7 million is requested for ground handling/servicing equipment.		
The flight simulator request of \$54.4 million includes three simulators: \$19.1 million for two CH-47C operational flight trainers 2B31; \$10.7 million for one AH-1S operational flight trainer/weapon system simulator, 2B33; and \$24.6 million for two BLACK HAWK operational flight trainers, 2B38. The 2B31, 2B33, and 2B38 have visual display systems for nap-of-the-earth (NOE) simulation. In addition, the 2B33 provides for weapons delivery training.		
In the \$10.3 million for other miscellaneous equipment, \$2.1 million is requested for items costing less than \$900,000 each, \$1.0 million for communications equipment to improve fixed Army airfields, \$5.6 million to buy the Aerial Radiological Survey Equipment AN/ADR-6, and \$1.6 million for Survival Radio AN/PRC-90.		
Component Improvement - \$ 9.5 million is requested for accelerated aging, extended service life testing and qualification efforts for improved reliability and maintainability for the T-700 engine used in the UH-60A BLACK HAWK and YAH-64 AAH helicopters. The remaining \$3.6 million is for continued mission profile low cycle fatigue, and endurance testing of the T55-L-712 engine, used in the CH-47C helicopter, to improve the reliability.		
Industrial Facilities - \$18.3 million is requested including \$8.3 million for Provision of Industrial Facilities (PIF), and \$10.0 million for various Manufacturing Methods and Technology (MM&T) and Military Adaptation of Commercial Items (MACI) projects.		
Other Production Charges - \$6.1 million is requested for procurement of 2.75 rocket light weight launchers for AH-1S COBRA/TOW attack helicopters.		
Depot Rebuild Facilities Equipment - \$.3 million continues upgrading of CONUS and overseas depot facilities to diagnose and repair the COBRA/TOW telescopic sight unit at the servicing depot rather than the contractor.		

AIRCRAFT PROCUREMENT, ARMY

Section 5

Comparison of Program Requirements and Financing

Comparison of FY 1979 program requirements as reflected in FY 1979 budget with FY 1979 program requirements as shown in FY 1980 budget.

Comparison of FY 1979 financing as reflected in FY 1979 budget with FY 1979 financing as shown in FY 1980 budget.

Comparison of FY 1978 program requirements as reflected in FY 1979 budget with FY 1978 program requirements as shown in FY 1980 budget.

Comparison of FY 1978 financing as reflected in FY 1979 budget with FY 1978 financing as shown in FY 1980 budget.

**COMPARISON OF FY 1979 PROGRAM REQUIREMENTS
AS REFLECTED IN FY 1979 BUDGET WITH
FY 1979 PROGRAM REQUIREMENTS AS SHOWN IN FY 1980 BUDGET**

SUMMARY OF REQUIREMENTS (In Thousands of Dollars)

Appropriation:	Total Program Requirements		Program Requirements		Increase (+) or Decrease (-)
	Per FY 79 Budget	Per FY 1980 Budget	Per FY 79 Budget	Per FY 1980 Budget	
Activity 1 - Aircraft	561,600		509,406		- 52,194
Activity 2 - Modification of Aircraft	306,200		297,200		- 9,000
Activity 3 - Spares and Repair Parts	69,200		66,903		- 2,297
Activity 4 - Support Equipment and Facilities	80,800		76,200		- 3,900
	1017,800		949,709		- 67,391

Explanation by Activity

Activity 1 - Aircraft - Congress disapproved 12 less Cobras at a cost of \$20,400 and 8 less Chinooks at a cost of \$45,400. This was offset by reprogramming of \$13,600 to BLACK HAWK for a net decrease of \$52,194.

Activity 2 - Modification of Aircraft - Decrease primarily to RV-1D (-4,400) CH-47 (-1,100) OH-58 (-2,600) and other miscellaneous modifications (-900) for reprogramming to BLACK HAWK.

Activity 3 - Spares and Repair Parts - Congress disapproved spares for the Undergraduate Helicopter Training Program (-703) and spares that supported the Cobras (-1,600).

Activity 4 - Support Equipment and Facilities - Decrease due to reprogramming of funds for tools & shop sets (\$1,000) and ground handling equipment (3,600) to BLACK HAWK.

**COMPARISON OF FY 1979 FINANCING AS REFLECTED
IN THE FY 1979 BUDGET WITH FY 1979 FINANCING
AS SHOWN IN FY 1980 BUDGET**

Appropriation:	(In Thousands of Dollars)		Increase (+) or Decrease (-)
	Financing Per FY 1979 Budget	Financing Per FY 1979 Budget	
Program Requirements, (Total)	1,105,700	1,024,707	- 80,991
Program Requirements (Service Account)	(1,017,800)	(949,709)	(-68,091)
Program Requirements (Reimbursable)	(87,940)	(75,000)	(-12,900)
Less:			
Anticipated reimbursements	87,900	75,000	-12,900
Reprogramming from prior year budget plans	0	0	0
Unobligated balance available from prior year to finance new budget plans	0	0	0
Unobligated balance transferred from other accounts	0	0	0
Add: Unobligated balance transferred to other accounts	0	0	0
Unobligated balance available to finance subsequent year budget plans	0	0	0
BUDGET AUTHORITY	1,017,800	949,709	-68,071

EXPLANATION OF CHANGES IN FINANCING

Reimbursements: \$12.9 million decrease represents revised estimates for reimbursable orders for helicopters, aircraft modifications and spare parts.

**COMPARISON OF FY 1978 PROGRAM REQUIREMENTS
AS REFLECTED IN FY 1979 BUDGET WITH
FY 1978 PROGRAM REQUIREMENTS AS SHOWN IN FY 1980 BUDGET**

SUMMARY OF REQUIREMENTS (In Thousands of Dollars)

Appropriation:	Total Program Requirements		Program Requirements		Increase (+) or Decrease (-)
	Per FY 79 Budget	Per FY 79 Budget	Per FY 1980 Budget	Per FY 1980 Budget	
Activity 1 - Aircraft	347,600	347,600	360,612	360,612	+ 13,300
Activity 2 - Modification of Aircraft	196,700	196,700	190,560	190,560	- 6,400
Activity 3 - Spares and Repair Parts	72,800	72,800	65,700	65,700	- 7,100
Activity 4 - Support Equipment and Facilities	42,600	42,600	41,828	41,828	- 800
	659,700	659,700	658,700	658,700	- 1,000

Explanation by Activity

Activity 1 - Aircraft - Increase due to reprogramming of \$11,500 to AH-1S COBRA/TOW Attack Helicopter buy as a result of increased engine costs, \$700 increased cost to the C-12A buy due to inflation, and reprogramming of \$1,000 for 2 PILATUS TURBO PORTER aircraft.

Activity 2 - Modification of Aircraft - Decreases primarily to CH-47 (3,100), and UH-1 (6,900), for the COBRA reprogramming and to OV-1 (1,000) for the PILATUS PORTER reprogramming offset by increases to other modifications (4,600).

Activity 3 - Spares and Repair Parts - Decreases primarily to initial spares (1,600) and Replenishment Spares (5,500)

Activity 4 - Support Equipment and Facilities - Decrease to Common Ground Equipment (3,000) offset by increases to component improvement (2,100) and First Destination Transportation (100).

COMPARISON OF FY 1978 FINANCING AS REFLECTED
IN THE FY 1979 BUDGET WITH FY 1978 FINANCING
AS SHOWN IN FY 1980 BUDGET

Appropriation:	(In Thousands of Dollars)		Increase (+) or Decrease (-)
	Financing Per FY 1979 Budget	Financing Per FY 1980 Budget	
Program Requirements, (Total)			
Program Requirements (Service Account)	771,300	735,455	- 35,845
Program Requirements (Reimbursable)	(659,700)	(658,700)	(- 1,000)
	(111,600)	(76,755)	(-34,345)
Less:			
Anticipated reimbursements	111,600	76,755	-34,845
Reprogramming from prior year budget plans	0	0	0
Unobligated balance available from prior year to finance new budget plans	0	0	0
Unobligated balance transferred from other accounts	2,600	2,600	0
Add: Unobligated balance transferred to other accounts	0	0	0
Unobligated balance available to finance subsequent year budget plans	0	0	0
BUDGET AUTHORITY	657,100	656,100	- 1,000

EXPLANATION OF CHANGES IN FINANCING

1. Reimbursements: \$34.8 million decrease represents revised estimates for reimbursable orders for helicopters, aircraft modifications and spare parts.
2. Unobligated balance transferred from other accounts: \$2.6 million increase represents transfer of funds to FY 78 from FY 77 for procurement of 2 UV-18A Twin Otter aircraft for the Alaska National Guard.

AIRCRAFT PROCUREMENT, ARMY

Section 6

Selected Data Sheets

NOT USED

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AIRCRAFT PROCUREMENT, ARMY

Section 7

Analysis of Unobligated Balances

1-33 - 1/22/79

AIRCRAFT PROCUREMENT, ARMY

Analysis of Unobligated Balances - FY 1980 Program * Summary by Category

Category	Estimated Unobligated	
	Dollars (Millions)	% of total Unobligated
1. Reserved to support contracts	216.4	73.5
2. Engineering changes	33.3	11.3
3. Other	44.8	15.2
	294.5	100%
Total Unobligated FY 1980		
Explanation by Category		

Based on past experience, it is predicted that the above amounts will remain unobligated at the end of FY 80. Reasons for the unobligated balances here have been grouped into three general categories and are detailed below. These unobligated amounts will therefore be required in subsequent fiscal years to complete the procurement of the FY 80 program.

1. Reserved to Support Contracts:

- a. Held pending award of firm contracts as opposed to letter orders.
- b. Amounts reserved for incentive contract payments.
- c. Reimbursements to be made to the Army Stock Fund for short leadtime materiel purchased as Government-furnished equipment for producers.
- d. Amounts held to support Product and Component Improvement Programs; modification for retrofit during production; modifications ordered by customers.
- e. Contractor claims, reserves to cover potential liabilities for contracts containing escalation clauses for labor or materiel cost increases and price redeterminations.
- f. Contract close-out costs; packing, crating, handling and packaging and loading charges.
- g. Government-furnished equipment breakout procurements; federal excise tax and sales tax payments; preparation of manuals and technical data and reserve for completion of construction elements of production base support facilities projects.
- h. Delay due to design or testing difficulties.
- i. Award protests.
- j. Insufficient procurement detail involving reimbursable orders.
- k. Develop adequate competitive procurement or technical data package.
- l. Items released to Army by other customers too late to permit obligation in FY 1980.

* Includes estimated FY 79 carry-over and other customer reimbursable programs.

AIRCRAFT PROCUREMENT, ARMY (Continued)

2. Engineering Changes:

- a. Engineering costs in support of production (obligated only as expenses are incurred).
- b. Validated engineering change orders to be incorporated into the current manufacturing process.
- c. Engineering changes as a result of acceptance testing, destructive and proving ground tests.
- d. Amounts reserved to support engineering change proposals and value engineering proposals.

3. Other:

- a. Changes to the previously planned method of procurement (i.e. competitive in lieu of sole source).
- b. Extension to bid opening dates.
- c. Additional time required to complete audits of cost data and obtain contractor cost data.
- d. Unfavorable pre-award surveys and extended negotiations.
- e. Held pending validation of production capability of low bidder.
- f. Attaining a satisfactory production rate prior to awarding additional work.

Aircraft Procurement, Army

Section 8

Modification of Aircraft

Page Number

Modification Summary Sheets

Exhibits P-3a

OV-1 MOHAWK

RU-21 AIRPLANE, RECONNAISSANCE

RV-1 AIRPLANE, RECONNAISSANCE

U-21 UTE

AH-1 COBRA

CH-47 CHINOOK

CH-54 TARHE

EH-1 HELICOPTER, ELECTRONIC

EH-60 HELICOPTER, ELECTRONIC

OH-58 KIOWA

AIRBORNE AVIONICS

1 - 38

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1 - 82

1 - 98

1 - 103

1 - 119

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1 - 147

CONSOLIDATED P-3a EXHIBIT

P-3a Exhibits for modifications which are to be applied to several different aircraft in FY 80/81 are included as follows:

<u>Modification</u>	<u>Aircraft to which applicable in FY 80/81</u>	<u>Page Number</u>
NOE Communications	AH-1S, OH-58A/C (AH-64 included in SSN AZ3500)	1 - 150
AN/ARC-164 Radio	OH-6, OH-58, UH-1, RV-1, OV-1, RU-21, U-21, CH-54, CH-47, AH-1, EU-1X	1 - 155
AN/APR-39V1 Radar Warning Receiver	UH-1, OH-58, CH-47, AH-1	1 - 159
Navigation Radio Receivers	OV-1, RV-1, U-21, RU-21, AH-1, CH-47, CH-54, OH-6, OH-58, UH-1, T-42	1 - 163
AN/APN-209 Radar Altimeter	CH-47, UH-1H, OH-58, AH-1	1 - 176

Aircraft Modification, Army
FY 80 President's Budget
(Dollars in Millions)

Aircraft

OV-1 MOHAWK

	80			81		
	# Acft	Unit Cost	FY 80 Cost	# Acft	Unit Cost	FY 80 Cost
Conversion Program	6 (Acft)	960,000	5.758	-	-	-
Hot Metal/Plume Suppressor	-	-	4.445	-	-	3.191
Infrared Jammer (AN/ALQ-147)	-	-	3.526	-	-	-
VSI Fibre Optics	16 (Kits)*	31,000	.496	-	-	-
KY-58 Secure Voice	83 (Kits)	300	.025	-	-	-
AN/ARC-164 UHF/AM	83 (Kits)*	14,060	1.167	-	-	-
ECM for AN/APS-94, Airborne	-	-	-	-	-	-
Radar Surveillance Set	45 (Kits)*	153,500	6.906	4 (Kits)*	5,750	.023
AN/APR-44 CW Radar Warning Receiver	-	-	1.532	-	-	-
UPD-2 RAM Improvement	-	-	19.550	-	-	-
XM-130 Chaff/Flare Dispenser	40 (Kits)	19,300	.771	46 (Kits)*	9,760	.449
AN/ARN-82 VOR/LOC	-	-	.024	-	-	-
AN/ALQ-136 Radar Jammer	-	-	-	-	-	3.218
AN/ALQ-162 CW Radar Jammer	-	-	-	-	-	3.150
AN/ALQ-156 Missile Detector	-	-	-	-	-	1.283
NI-Cad Battery Monitor	-	-	-	4 (Kits)	5,500	.022
		TOTAL OV-1	44.200			11.336

RU-21

Weather Radar	34 (Kits)	25,000	.843	-	-	-
AN/APR-39V2 Radar Warning Receiver	32 (Kits)*	26,400	.845	-	-	-
APR-44 CW Warning Receiver	17 (Kits)*	27,500	.467	-	-	-
AN/ARC-164 UH/AM	(GFE)	-	.046	-	-	-
GUARDRAIL V	-	-	.203	-	-	-
Fuel Filter Drain	42 (Kits)	24	.001	-	-	-
AN/ALQ-136 Radar Jammer	-	-	-	27 (Kits)	47,600	1.285
AN/ALQ-156 Missile Detection	-	-	-	27 (Kits)	18,200	.492
AN/ALQ-162V1 CW Radar Jammer	-	-	-	36 (Kits)	21,600	.778
Improved Avionics	-	-	-	43 (Kits)	1,400	.060
		TOTAL RU-21	2.405			2.615

Aircraft Modification, Army
FY 80 President's Budget

Aircraft	80			81		
	# Acft	Unit Cost	FY 80 Cost	# Acft	Unit Cost	FY 81 Cost
<u>RV-1D</u>						
QUICKLOOK Conversion	4 (Kits)	2,243,750	8,975	-	-	2,375
AN/APR-39V2 Radar Warning Receiver	(GFE)		.033	-	-	-
VSI Fibre Optics	4 (Kits)*	4,000	.016	-	-	-
Infrared Suppressor	12 (Kits)*	148,500	1,782	9 (Kits)	114,600	1,031
KY-58 Secure Voice	10 (Kits)	300	.003	-	-	-
AN/ARC-164 UHF/AM	10 (Kits)	14,700	.147	-	-	-
Life Extension				-	-	-
AN/APR-44 CW Radar Warning Receiver			.398	-	-	8,800
XM-130 Chaff/Flare Dispenser	27 (Kits)	7,700	.208	18 (Kits)	108,600	1,955
AN/ALQ-136					42,500	.766
AN/ALQ-156				18 (Kits)	70,400	1,056
AN/ALQ-162				15 (Kits)		
	TOTAL RV-1D		11,562			15,983
<u>U-21 UTE</u>						
Weather Radar	99 (Kits)*	20,030	1,483			1,600
	TOTAL U-21		1,483			1,600

Aircraft Modification, Army
FY 80 President's Budget

Aircraft

AH-1 COBRA

	80			81		
	# Acft	Unit Cost	FY 80 Cost	# Acft	Unit Cost	FY 81 Cost
Laser Warning Receiver			.510	250 (Kits)	1,548	.387
NOE Communications			.296	15 (GFE)	5,600	.913
XM-130 Chaff/Flare Dispenser	224 (Kits)*	2,728	1,970	234 (Kits)*	2,609	2,828
Radar Jammer ALQ-136	107 (GFE)*	59,935	8,360	88 (GFE)*	66,284	7,621
Conversion/Modernization	160 (Acft)*	1,603,000	256,480	64 (Acft)*	1,568,500	100,388
Radar Warning APR-39						.237
Hot Metal/Plume IR Suppressor	268 (Kits)*	11,504	3,083	64 (Kits)*	11,938	.764
IR Jammer ALQ-144	213 (GFE)*	18,830	5,701	64 ((GFE))*	19,625	1,719
	TOTAL AH-1		276,400			114,857
<u>CH-47 CHINOOK</u>						
Fiberglass Rotor Blade	56 (Kits)*	238,500	21,108	97 (Kits)*	227,247	22,043
Engine Conversion (T-55-L-712)	91 (Kits)	113,919	10,786	104 (Kits)	120,282	12,509
Modernization Program			27,432	-	-	141,429
	TOTAL CH-47		59,326			175,981

Aircraft Modification, Army
FY 80 President's Budget

	80		81	
	# Acft	Unit Cost	# Acft	Unit Cost
<u>Aircraft</u>				
<u>CH-54 TARHE</u>				
Improved Anti-Collision Light	36 (Kits)	2,972		
	TOTAL CH-54	.107		
<u>EH-1 Helicopter Electronic</u>				
QUICK FIX (Phase II)				
AN/ALQ-144 Jammer		14,383		5,500
AN/APR-39V2 Radar Warning Receiver		1,274		.100
XM-130 General Purpose Dispenser		1,786		.050
Hot Metal + Plume Suppressor		1,406	18 (Kits)	.556
AN/ALQ-156 Missile Detection		-	28 (Kits)	1,190
AN/ALQ-162V1 Radar Jammer		-	28 (Kits)	42,500
	TOTAL EH-1	18,849	18 (Kits)	70,800
<u>EH-60 Helicopter Electronic</u>				
QUICK FIX				
		14,489		2,300
	TOTAL EH-60	14,489		2,300
<u>OH-58 KIOWA</u>				
Airframe Defrost Kits	334	5,090		
Improved VHF-FM	-	-	385 (Kits)	2,100
HF NOE Comm Sys	-	-	280 (Kits)	2,926
Improved Tail Rotor System	277 (Kits)	9,738	280 (Kits)	12,200
	TOTAL OH-58	2,697	251 (Kits)	2,500
		10,503		19,726

Aircraft	80		81	
	# Acft	Unit Cost	# Acft	Unit Cost
<u>AIRBORNE AVIONICS</u>				
Antenna Coupler		2.947		.772
ECCM for VHF/FM				.168
IACS Radio Interface				.637
LDNS accuracy improved				.543
				2.120
<u>MODIFICATIONS UNDER \$900,000</u>				
C-12 Modifications (De-ice)				.364
TOTAL MODIFICATIONS UNDER \$900,000				.364

1-42 - 1/22/79

FY 80 BUDGET ESTIMATE

AIRCRAFT MODIFICATIONS			EXHIBIT P-3		
APR/2			FY 80	DATE 1 JAN 1979	
AIRCRAFT MODEL	MODIFICATION NUMBER	DESCRIPTION OF MODIFICATION	NUMBER AIRCRAFT	UNIT COST	TOTAL COST (Thousands)
OV-1D	1-76-01-0807-E	AN/APS-94F	4	5	6,906
OV-1D	1-77-01-0876-A	UPD-2 RAM Improvement			19,550
OV-1C	1-72-01-0001-I	OV-1D Conversion			5,758
OV-1D	1-77-01-1081-C	AN/APR-44 CW RWR			1,532
OV-1D	1-75-01-0827-F	AN/ALQ-147 A(V)1			3,526
OV-1D	1-75-01-0302-D	Hot Metal & Plume Suppressor			4,445
OV-1D	1-79-01-1079-B	XM-130 Chaff/Flare Dispenser			771
OV-1D	1-76-01-0303-B	Fibre Optics (VIDS)			496
OV-1D	1-78-01-0865-D	KY-58/T SEC Voice Security			25
OV-1B/C/D	1-78-01-0866-E*	AN/ARC-164 UHF Radio Receiver*			1,167
OV-1B/C	1-74-01-0807-G*	AN/ARN-82: VOR/LOC*			24
*Consolidated P-3a				GRAND TOTAL	44,200

BU 10-1

1-43 - 1/22/79

Edition of 1 Apr 76, may be used.

2077

DRST-C Form 1 Apr 78

CLASSIFICATION		FY 80 BUDGET ESTIMATE	
REPORTS CONTROL SYMBOL DD-COMP (AR) 1092	AIRCRAFT MODIFICATION		DATE 1 JAN 1979
APPROPRIATION/BUDGET ACTIVITY APA/2 SSN A23530	MODIFICATION TITLE AND NO. OV-1 ECCM for AN/APS-94 Airborne Radar Surveillance Set, PIP 1-76-01-0007-E		
AIRCRAFT AFFECTED: OV-1D			
<p>DESCRIPTION/JUSTIFICATION: Type of improvement - Operational Capability. This modification will reduce the vulnerability of the AN/APS-94D Radar Surveillance set to jamming and other electromagnetic interference. Components of the AN/APS-94D will be modified and an additional "Black Box" containing auxiliary receiver assemblies and control circuitry will be installed in the OV-1D. This urgent product improvement program will enable the AN/APS-94 operator in the OV-1D to acquire and provide useful side looking airborne radar (SLAR) imagery to interceptors in spite of electromagnetic interference.</p> <p>DEVELOPMENT STATUS: This product improvement will be accomplished in two phases: During Phase I, known electronic counter measures (ECCM) techniques will be incorporated in an engineering model AN/APS-94D, and feasibility tests will be conducted to verify effectiveness of the fixes. During Phase II, 3 AN/APS-94D radar sets will be modified with pre-production ECCM kits for environmental and DT confirmatory tests.</p>			
1-44 - 1/22/79			
DDSTSC Form 1 Apr 76	2075	Page No.	P-1 SHOPP LIST ITEM NO.
Edition of 1 May 76, may be used.		CLASSIFICATION	
		BT 10 - 2	
		EXHIBIT P. 3a	

SYSTEM: OV-1D PIP NO: 1-76-01-0807-E PIP DESCRIPTION: ECM for AN/APS-94 Radar Set

MILESTONES:

Phase I Contract Award	<u>FY 76</u>	<u>FY 77</u>	<u>FY 78</u>	<u>FY 79</u>	<u>FY 81</u>
Special IPR	Jun 76	Mar 77			
Phase II Contract Award		Sep 77			
AN/APS-94 ECM Kit Lead-Time			12 months		
FECF/Pubs/MWO Contract Award			4Q		
FECF Submittal				4Q	
FECF Approval				4Q	
Aircraft Kit contract Award (Long Lead-Time Parts)				3Q	
Aircraft Kit Lead-Time			8 months		
Aircraft Kit Production Rate			5 per month		
Kit Delivery Starts				1Q	
Kit Installation Start				2Q	
Kit Installation Complete					4Q

PROJECT FINANCIAL PLAN (Amounts in millions of dollars)

	<u>FY 76</u>	<u>FY 77</u>	<u>FY 78</u>	<u>FY 79</u>	<u>FY 80</u>	<u>FY 81</u>	<u>TOTAL PROGRAM</u>
	<u>Qty</u>	<u>Cost</u>	<u>Qty</u>	<u>Cost</u>	<u>Qty</u>	<u>Cost</u>	<u>Qty</u>
1/ Phase I Engineering Costs	1/	.960	2/ 4.004	3/ 4.114	4/ 6.906	.023	16.192
2/ Hardware for Prototype Testing			.185				
3/ 20 APS-94 ECM Kits, 20 Airframe Kits							
4/ 45 APS-94 ECM Kits, 73 Airframe Kits							

SYSTEM: OV-ID PIP NO: 1-76-01-0807-E TION: ECCM for AN/APS-94 Radar Set

BASIS FOR COST ESTIMATE (Amounts in millions of dollars)

	FY 76		FY 77		FY 78		FY 79		FY 80		FY 81		TOTAL	
	Qty	Amt	Qty	Amt	Qty	Amt	Qty	Amt	Qty	Amt	Qty	Amt	Qty	Amt
Reliability Acceptance Test						.135								.135
AN/APS-94 ECCM Kits							20	2.340	45	5.511			65	7.851
Aircraft Provisions Kits							20	.142	69	.500	4	.023	93	.665
Nonrecurring (APA)	.960			4.004		.050		1.632		.895				7.541
Nonrecurring (OMA)								(.024)		(.024)				(.048)
AN/APS-94 ECCM Kit Instl (OMA)									65	(.177)			65	(.177)
Provision Kit Instl (OMA)									39	(.708)	54	(1.036)	93	(1.744)
Procurement Secondary (APA)								(.351)		(.820)				(1.171)
TOTAL (PEMA)		.960		4.004		.185		4.114		6.906		.023		16.192

METHOD OF IMPLEMENTATION: Application of AN/APS-94 ECCM kits will be accomplished by the contractor during production of 20 AN/APS-94E radar sets, and by contractor team on 45 AN/APS-94D radar sets in the field. Application of aircraft provision kits will be accomplished by MWO at Depot or Direct Support Level.

INSTALLATION SCHEDULE:

	FY 79				FY 80				FY 81			
	1	2	3	4	1	2	3	4	1	2	3	4

AN/APS-94 ECCM Kits

10 15 20 20

Aircraft Provision Kits

6 8 13 13 12 15 15 11

Kit Delivery Schedule

AN/APS-94 ECCM Kits

26 18 18 3

Aircraft Provision Kits

5 10 15 10 15 19 19 -

BU 10-4

CLASSIFICATION		FY 80 BUDGET ESTIMATE	
REPORTS CONTROL SYMBOL DD-COMP (AR) 1092	AIRCRAFT MODIFICATION	DATE 1 JAN 1979	
APPROPRIATION/BUDGET ACTIVITY APA/2	MODIFICATION TITLE AND NO. PIP 1-77-01-0876-A	OV-1 UPD-2 RAM IMPROVEMENT	
SSN AZ3530			
AIRCRAFT AFFECTED: OV-1D			
<p>DESCRIPTION/JUSTIFICATION: Type of Improvement - Reliability and Maintainability. The interim data link (UPD-2) currently installed in Korea and Europe OV-1 aircraft is FY 59 vintage equipment. Accordingly, the user is experiencing extreme difficulty in maintaining the operational readiness of that system. USAREUR has stated a tactical and immediate need for state-of-the-art product improvements. Their system is currently experiencing 50 hour MTBF on some components and a 4 hour Mean Time Between Repair. This PIP replaces those high mortality components with latest state-of-the-art technology.</p> <p>DEVELOPMENT STATUS: Hardware utilized are standard components of existing systems with the exception of digital encoder and decoder which contractor has developed on internal R&D funding. This PIP would procure three prototypes, and qualification, retrofit kits and data.</p>			
MILESTONES:			
	FY 77	FY 78	FY 79
Contract Award			FY 80
Qual Test Complete			FY 81
Delivery Start	3Q		
Kit Installation Start		1Q	
Kit Installation Complete		2Q	4Q
PROJECT FINANCIAL PLAN (\$ MILLIONS):			
	FY 77	FY 78	FY 79
	9.175	.090	1.410
			FY 80
			19.550
			TOTAL
			30.225

1-47 - 1/22/79

CLASSIFICATION		FY 80 BUDGET ESTIMATE																																																																	
REPORTS CONTROL SYMBOL DD-COMP (AR) 1092	AIRCRAFT MODIFICATION	DATE 1 JAN 1979																																																																	
APPROPRIATION/BUDGET ACTIVITY	MODIFICATION TITLE AND NO.	OV-1 Conversion Program																																																																	
APA/2	SSN AZ3530	PIP 1-72-01-0001-1																																																																	
AIRCRAFT AFFECTED: OV-1C																																																																			
<p>DESCRIPTION/JUSTIFICATION: Type of Improvement - Operational Capability. This modification program will modernize the older OV-1C aircraft to a standard OV-1D configuration to accept the palletized and improved IR and SLAR packages, thus, increasing the operational capability and flexibility of the OV-1 aircraft. The improved sensor will allow a single converted aircraft to be interchanged to fly either the IR or SLAR mission, thereby increasing the surveillance capability of the aircraft.</p> <p>Airframe changes will include additional airframe components of the OV-1D configuration, i.e., increased strength landing gear; increased horsepower engine and matching propellers; addition of two fuselage access doors.</p> <p>Currently the Army has in operation for surveillance the older model OV-1B equipped only for Side Looking Airborne Radar (SLAR) and older Model OV-1C which have only the capability for Infrared (IR).</p> <p>DEVELOPMENT STATUS: Preproduction Prototype Completed - December 1968 Engineering/Service Tests Completed - June 1971 Type Classified Standard - September 1972</p>																																																																			
<table border="1"> <thead> <tr> <th>MILESTONES:</th> <th>FY 73</th> <th>FY 74</th> <th>FY 75</th> <th>FY 76</th> <th>FY 77</th> <th>FY 78</th> <th>FY 79</th> </tr> <tr> <th></th> <th>ACT DATE</th> <th>ACT DATE</th> <th>ACT DATE</th> <th>ACT DATE</th> <th>ACT DATE</th> <th>ACT DATE</th> <th>ACT DATE</th> </tr> </thead> <tbody> <tr> <td>PIP Approval</td> <td>Feb 73</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Contract Award</td> <td>May 73</td> <td>Mar 74</td> <td>Mar 75</td> <td>Mar 76</td> <td>Feb 77</td> <td>Feb 78</td> <td>1Q FY 79</td> </tr> <tr> <td>Leadtime for Airframe</td> <td>14 month average</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Production Rate for A/C</td> <td>(See Installation Schedule)</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Delivery Starts</td> <td>Aug 74</td> <td>Oct 75</td> <td>Feb 76</td> <td>Sep 76</td> <td>4Q FY 78</td> <td>2Q FY 79</td> <td>1Q FY 80</td> </tr> <tr> <td>Total Program</td> <td>(4Q FY 82)</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>				MILESTONES:	FY 73	FY 74	FY 75	FY 76	FY 77	FY 78	FY 79		ACT DATE	ACT DATE	ACT DATE	ACT DATE	ACT DATE	ACT DATE	ACT DATE	PIP Approval	Feb 73							Contract Award	May 73	Mar 74	Mar 75	Mar 76	Feb 77	Feb 78	1Q FY 79	Leadtime for Airframe	14 month average							Production Rate for A/C	(See Installation Schedule)							Delivery Starts	Aug 74	Oct 75	Feb 76	Sep 76	4Q FY 78	2Q FY 79	1Q FY 80	Total Program	(4Q FY 82)						
MILESTONES:	FY 73	FY 74	FY 75	FY 76	FY 77	FY 78	FY 79																																																												
	ACT DATE	ACT DATE	ACT DATE	ACT DATE	ACT DATE	ACT DATE	ACT DATE																																																												
PIP Approval	Feb 73																																																																		
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Leadtime for Airframe	14 month average																																																																		
Production Rate for A/C	(See Installation Schedule)																																																																		
Delivery Starts	Aug 74	Oct 75	Feb 76	Sep 76	4Q FY 78	2Q FY 79	1Q FY 80																																																												
Total Program	(4Q FY 82)																																																																		
*FY 7T, no milestones																																																																			

1-49 - 1/22/79

SYSTEM: OV-1C PIP NO: 1-72-01-0001-1 PIP DESCRIPTION: OV-1 Conversion

PROJECT FINANCIAL PLAN: (\$ Millions)

FY 73	FY 74	FY 75	FY 76	FY 77
Qty Amt	Qty Amt	Qty Amt	Qty Amt	Qty Amt
4 12.647	12 15.487	9 17.545	12 19.385	0 0 6 6.435

FY 78	FY 79	FY 80	TOTAL PROGRAM
Qty Amt	Qty Amt	Qty Amt	Qty Amt
6 7.852	6 7.465	6 5.758	61 92.574

SYSTEM: OV-1C PIP NO: 1-72-01-0001-I PIP DESCRIPTION: OV-1 Conversion

BASIS FOR COST ESTIMATE: (\$ Millions)

	FY 73		FY 74		FY 75		FY 76		FY 77	
	Qty	Cost	Qty	Cost	Qty	Cost	Qty	Cost	Qty	Cost
Kits	0	0	0	0					0	0
GSE Flyaway	0	0	.085				.166		0	0
A/C GFE	1.990		4.511	.122			1.459		0	2.093
AN/AYA-10	16	1.115	11	.696	12	.785	12	.780	7	.493
AN-ASN-86	16	3.582	12	2.688	12	2.626	9	3.652	0	0
AN/APS-94D	0	0	3	.958	16	5.319	18	6.501	0	0
AN/AAS-24	0	0	3	.925	10	3.376			0	0
Avionics/Mission	.783		1.182		.384		1.431		0	.443
GFE & Supt										
Non-Recur	2.000		0		0		0		0	0
Instl										
POMA	4	3.177	12	4.442	9	4.933	12	5.396	0	3.406
(OMA)						(.084)		(.112)		(.017)
TOTAL	4	12.647	12	15.487	9	17.545	12	19.385	0	6.435

	FY 78		FY 79		FY 80		TOTAL PROGRAM	
	Qty	Cost	Qty	Cost	Qty	Cost	Qty	Cost
Kits	0	0	0	0			0	
GSE Flyaway	0	0	.198	.247			.696	
A/C GFE	1.638		1.238	1.314			14.365	
AN/AYA-10	.080		0	0	58	3.949		
AN-ASN-86	6	1.717	3	.961	59	15.568		
AN/APS-94D	0	0	0	0	37	12.778		
AN/AAS-24	0	0	0	0	13	4.301		
Avionics/Mission	.234		1.081	.570		6.108		
GFE & Supt								
Non-Recur	0		0			2.000		
Instl								
POMA	6	4.183	6	3.987	6	3.285	61	32.809
(OMA)								(.213)
TOTAL	6	7.852	6	7.465	6	5.758	61	92.574

BU 10-9

SYSTEM: OV-1C

PIP NO: 1-72-01-0001-I

PIP DESCRIPTION: OV-1 Conversion

METHOD OF IMPLEMENTATION: Installation will be accomplished at the contractor's plant on a production line basis.

KIT DELIVERY SCHEDULE: Not applicable.

INSTALLATION SCHEDULE:																																					
	FY 73				FY 74				FY 75				FY 76				FY 77				FY 78				FY 79				FY 80				FY 81				
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	
Inductions																																					
Completions	4	3	3	2	3	4	3	3	4	3	3	3	4	3	3	3	4	3	3	3	4	3	3	3	4	3	3	3	4	3	3	3	4	3	3	3	4

Inductions	1	2	3	4
Completions	1	1		

BU 10-10

1-52 - 1/22/79

CLASSIFICATION		FY 80 BUDGET ESTIMATE																																					
REPORTS CONTROL SYMBOL DD-COMP (AR) 1082	AIRCRAFT MODIFICATION	DATE 1 JAN 1979																																					
APPROPRIATION/BUDGET ACTIVITY APA/2 SSN AZ3530	MODIFICATION TITLE AND NO. 1-77-01-1081-C AN/APR-44(V) () Continuous Wave Radar Warning Receiver																																						
AIRCRAFT AFFECTED: OV-1D																																							
<p>DESCRIPTION/JUSTIFICATION: Type of Improvement - Operational Capability. The AN/APR-44(V) () CW RWR is to be installed on the OV-1D aircraft to provide detection and crew warning of emission from hostile air defense radar systems.</p> <p>DEVELOPMENT STATUS: Aircraft Integration Design Initiated - Jun 78 Prototype Complete - 2Q 79 Effectiveness Testing Complete - 2Q 79</p>																																							
<p>MILESTONES:</p> <table border="0"> <thead> <tr> <th></th> <th>FY 78</th> <th>FY 79</th> <th>FY 80</th> </tr> </thead> <tbody> <tr> <td>Contract Award, ECP</td> <td>Jun 78</td> <td></td> <td></td> </tr> <tr> <td>ECP Approval</td> <td>1Q 80</td> <td></td> <td></td> </tr> <tr> <td>Contract Awd, Airframe Kits</td> <td></td> <td>1Q 80</td> <td></td> </tr> <tr> <td>Production Lead Time</td> <td></td> <td>4 Months</td> <td></td> </tr> <tr> <td>Kit Delivery Starts</td> <td></td> <td>2Q 80</td> <td></td> </tr> <tr> <td>APR-44 Contract Awd</td> <td>1Q 79</td> <td>3Q 79</td> <td>1Q 80</td> </tr> <tr> <td>Production Lead Time</td> <td>8 Months</td> <td>6 Months</td> <td>6 Months</td> </tr> <tr> <td>APR-44 Del Starts</td> <td>3Q 79</td> <td>1Q 80</td> <td>3Q 80</td> </tr> </tbody> </table>					FY 78	FY 79	FY 80	Contract Award, ECP	Jun 78			ECP Approval	1Q 80			Contract Awd, Airframe Kits		1Q 80		Production Lead Time		4 Months		Kit Delivery Starts		2Q 80		APR-44 Contract Awd	1Q 79	3Q 79	1Q 80	Production Lead Time	8 Months	6 Months	6 Months	APR-44 Del Starts	3Q 79	1Q 80	3Q 80
	FY 78	FY 79	FY 80																																				
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APR-44 Del Starts	3Q 79	1Q 80	3Q 80																																				
PROJECT FINANCIAL PLAN (Amounts in Millions of Dollars):																																							
FY 77	FY 78	FY 79	FY 80																																				
QTY COST	QTY COST	QTY COST	QTY COST																																				
.140	.518	.323	1.532																																				
			TOTAL PROGRAM COST 2.513																																				

1-53 - 1/22/79

1 JAN 1973

BASIS FOR COST ESTIMATE: (Amounts in Millions of Dollars)

	FY 77	FY 78	FY 79	FY 80	TOTAL PROGRAM
	QTY COST	QTY COST	QTY COST	QTY COST	QTY COST
Phase I Engr/Test	.080	.314		.172	.566
Airframe Mod Kits			86 .175		.175
Production Mod Parts				6 .016	.016
APR-44 Systems	3 .059	18 .130	6 .029	66 .656	.874
R2098 Receivers				27 .110	.110
STE			3 .005	28 .065	.070
Warranty		.053	.009	.223	.285
Non-Recurring, Contr			.102	.205	.307
Engr Support, CERCOM	.001	.021	.003	.085	.110
Application (OMA-2207)				86 (.145)	(.145)
TOTAL APA	.140	.518	.323	1.532	2.513

METHOD OF IMPLEMENTATION: The prototype installation on a fielded aircraft will be completed by the contractor, 86 aircraft will be retrofitted by depot level contact team personnel in the field, and the balance will be modified in conversion.

DELIVERY SCHEDULE:

FY 79	FY 80	FY 81
1 2 3 4	1 2 3 4	1 2 3 4

Airframe Mod Kits

25 45 16

INSTALLATION SCHEDULE:

Mod Kit Installation

45 41

BU 10-12

CLASSIFICATION		FY 80 BUDGET ESTIMATE		DATE 1 JAN 1979																																									
REPORTS CONTROL SYMBOL DD-COMP (AR) 1092		AIRCRAFT MODIFICATION																																											
APPROPRIATION/BUDGET ACTIVITY APA/2		MODIFICATION TITLE AND NO. AN/ALQ-147A(V)1 Countermeasure Set 1-75-01-0827-F																																											
AIRCRAFT AFFECTED: OV-ID SSN AZ3530																																													
<p>DESCRIPTION/JUSTIFICATION: Type of Improvement-Operational Capability. The AN/ALQ-147A(V)1 is an on-board device which can be programmed to defeat the guidance systems of infrared guided missiles. The (V)1 is a shorter, lighter version of the basic AN/ALQ-147().</p> <p>DEVELOPMENT STATUS: Initiate Phase 1 Engineering, Airframe Mar 78 ECP Approval 1Q FY 79</p>																																													
<p>MILESTONES:</p> <table border="0"> <tr> <td>Airframe Mod Kits Cont Awd</td> <td>FY 77</td> <td>FY 78</td> <td>FY 79</td> <td>FY 80</td> </tr> <tr> <td>Prod Lead Time</td> <td></td> <td></td> <td>2Q FY 79</td> <td></td> </tr> <tr> <td>Airframe Mod Kits Del Starts</td> <td></td> <td></td> <td>4 months</td> <td></td> </tr> <tr> <td>Kit Installation Starts</td> <td></td> <td></td> <td>4Q FY 79</td> <td></td> </tr> <tr> <td>AN/ALQ-147(V)1 Eng Prog Spt Tasks</td> <td>Oct 76</td> <td></td> <td></td> <td></td> </tr> <tr> <td>AN/ALQ-147A(V)1 Prod Cont Awd</td> <td>Jul 78</td> <td>Jul 78</td> <td></td> <td>2Q FY 80</td> </tr> <tr> <td>AN/ALQ-147(V)1 Prod Lead Time</td> <td>14 months</td> <td>14 months</td> <td></td> <td>14 months</td> </tr> <tr> <td>AN/ALQ-147(V)1 Del Starts</td> <td>4Q FY 79</td> <td>4Q FY 79</td> <td></td> <td>3Q FY 81</td> </tr> </table>						Airframe Mod Kits Cont Awd	FY 77	FY 78	FY 79	FY 80	Prod Lead Time			2Q FY 79		Airframe Mod Kits Del Starts			4 months		Kit Installation Starts			4Q FY 79		AN/ALQ-147(V)1 Eng Prog Spt Tasks	Oct 76				AN/ALQ-147A(V)1 Prod Cont Awd	Jul 78	Jul 78		2Q FY 80	AN/ALQ-147(V)1 Prod Lead Time	14 months	14 months		14 months	AN/ALQ-147(V)1 Del Starts	4Q FY 79	4Q FY 79		3Q FY 81
Airframe Mod Kits Cont Awd	FY 77	FY 78	FY 79	FY 80																																									
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AN/ALQ-147A(V)1 Prod Cont Awd	Jul 78	Jul 78		2Q FY 80																																									
AN/ALQ-147(V)1 Prod Lead Time	14 months	14 months		14 months																																									
AN/ALQ-147(V)1 Del Starts	4Q FY 79	4Q FY 79		3Q FY 81																																									
PROJECT FINANCIAL PLAN: (Amounts in Millions of Dollars)																																													
<table border="0"> <tr> <td>FY 77</td> <td>FY 78</td> <td>FY 79</td> <td>FY 80</td> <td>TOTAL PROGRAM</td> </tr> <tr> <td>QTY</td> <td>QTY</td> <td>QTY</td> <td>QTY</td> <td></td> </tr> <tr> <td>AMT</td> <td>AMT</td> <td>AMT</td> <td>AMT</td> <td></td> </tr> <tr> <td>3.106</td> <td>2.400</td> <td>3.104</td> <td>3.526</td> <td>12.317</td> </tr> </table>		FY 77	FY 78	FY 79	FY 80	TOTAL PROGRAM	QTY	QTY	QTY	QTY		AMT	AMT	AMT	AMT		3.106	2.400	3.104	3.526	12.317																								
FY 77	FY 78	FY 79	FY 80	TOTAL PROGRAM																																									
QTY	QTY	QTY	QTY																																										
AMT	AMT	AMT	AMT																																										
3.106	2.400	3.104	3.526	12.317																																									

1-55 - 1/22/79

1 JAN 1979

BASIS FOR COST ESTIMATE: (Amounts in Millions of Dollars)

	FY 77	FY 78	FY 79	FY 80	TOTAL PROGRAM
	QTY COST	QTY COST	QTY COST	QTY COST	QTY COST
AN/ALQ-147					
Non-Recurring	1.025	1.754	.195	.545	3.519
AN/ALQ-147() Sys	25 1.765				1.765
AN/ALQ-147A(V)1 Sys	5 .397	20 2.784		23 2.710	5.891
Spec Test Equip	9 .201	6 .249	3 .125	5 .271	.846
Airframe Mod Kits	55 .115		81 .181		.296
Installation (OMA)	(47) (.097)	(8) (.008)	(27) (.025)	(54) (.047)	(.177)
	3.106	2.400	3.104	3.526	12.317

METHOD OF IMPLEMENTATION: Airframe modification kits will be installed by depot contact teams and during the OV-1D conversion program.

Kit Delivery Schedule

FY 79		FY 80
<u>1 2 3 4</u>		<u>1 2 3 4</u>
		36
		45

Installation Schedule

	FY 79	FY 80	FY 81
1	2	1	1
2	3	2	2
4	4	3	3
—	—	—	—
27	27	4	4
27	27		
27	27		

Conversion Program

1 3 2 1 .3 2

CLASSIFICATION		FY 80 BUDGET ESTIMATE																																																																
REPORTS CONTROL SYMBOL DD-COMP (AR) 1002	AIRCRAFT MODIFICATION	DATE 1 JAN 1979																																																																
APPROPRIATION/BUDGET ACTIVITY APA/2	SSN A23530	MODIFICATION TITLE AND NO. Infrared (IR) Suppressor 1-75-01-0302-D																																																																
AIRCRAFT AFFECTED: OV-1D																																																																		
<p><u>DESCRIPTION/JUSTIFICATION:</u> Type of Improvement - Operational Capability. The Hot Metal plus Plume Suppressor is an engine nacelle/exhaust modification which reduces the infrared (IR) signature by using ram air for cooling exhaust duct wall surfaces (hot metal) and exhaust gases (plume dilution). The suppressor system consists of airframe mod kit provisions, including covers for use in unsuppressed configuration; lowered scarf shroud suppressor assembly (B Kit); and static covers for each engine. The IR suppressor system is required to complement the AN/ALQ-147() IR Jammer to defeat the growth threats, and will become mission essential in operations against growth threat.</p> <p><u>DEVELOPMENT STATUS:</u> Engineering development contract was awarded Jun 75; ED prototype fabricated Apr 76. Contractor developmental testing and government effectiveness (IR measurements) testing is complete. Government endurance (RAM) testing was completed May 78. A TECOM Independent Evaluation Report was issued Jul 78. The ECP for the airframe provisions was approved Apr 77, and contract mod for incorporating provisions during the conversion program was awarded Aug 77.</p>																																																																		
<p><u>MILESTONES:</u></p> <table border="1"> <thead> <tr> <th></th> <th>FY 77 EST DATE</th> <th>FY 78 EST DATE</th> <th>FY 79 EST DATE</th> <th>FY 80 EST DATE</th> <th>FY 81 EST DATE</th> <th>FY 82 EST DATE</th> </tr> </thead> <tbody> <tr> <td>Pdn Contr Awd (Leadtime):</td> <td>Aug 1977</td> <td>Feb 1978 (5 mo)</td> <td>2Q 79 (5 mo)</td> <td>2Q 80 (5 mo)</td> <td>1Q 81 (3 mo)</td> <td>1Q 81 (9 mo)</td> </tr> <tr> <td>Airframe Provisions</td> <td></td> <td>1Q 79 (9 mo)</td> <td>1Q 79 (9 mo)</td> <td>2Q 80 (9 mo)</td> <td>1Q 81 (9 mo)</td> <td>1Q 82 (9 mo)</td> </tr> <tr> <td>Mod Kits</td> <td></td> <td></td> <td></td> <td>3Q 80</td> <td>2Q 81</td> <td></td> </tr> <tr> <td>Delivery Starts:</td> <td></td> <td></td> <td>4Q 79</td> <td>1Q 81</td> <td>4Q 81</td> <td>4Q 82</td> </tr> <tr> <td>Suppressor B Kit</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Installation Starts:</td> <td></td> <td></td> <td></td> <td>1Q 81</td> <td>3Q 81</td> <td></td> </tr> <tr> <td>Mod Kits</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Suppressor B Kit</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table> <p>(Installed on a mission - required basis)</p>					FY 77 EST DATE	FY 78 EST DATE	FY 79 EST DATE	FY 80 EST DATE	FY 81 EST DATE	FY 82 EST DATE	Pdn Contr Awd (Leadtime):	Aug 1977	Feb 1978 (5 mo)	2Q 79 (5 mo)	2Q 80 (5 mo)	1Q 81 (3 mo)	1Q 81 (9 mo)	Airframe Provisions		1Q 79 (9 mo)	1Q 79 (9 mo)	2Q 80 (9 mo)	1Q 81 (9 mo)	1Q 82 (9 mo)	Mod Kits				3Q 80	2Q 81		Delivery Starts:			4Q 79	1Q 81	4Q 81	4Q 82	Suppressor B Kit							Installation Starts:				1Q 81	3Q 81		Mod Kits							Suppressor B Kit						
	FY 77 EST DATE	FY 78 EST DATE	FY 79 EST DATE	FY 80 EST DATE	FY 81 EST DATE	FY 82 EST DATE																																																												
Pdn Contr Awd (Leadtime):	Aug 1977	Feb 1978 (5 mo)	2Q 79 (5 mo)	2Q 80 (5 mo)	1Q 81 (3 mo)	1Q 81 (9 mo)																																																												
Airframe Provisions		1Q 79 (9 mo)	1Q 79 (9 mo)	2Q 80 (9 mo)	1Q 81 (9 mo)	1Q 82 (9 mo)																																																												
Mod Kits				3Q 80	2Q 81																																																													
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FY 77	FY 78	FY 79	FY 80	FY 81	FY 82	TOTAL PROGRAM
QTY	QTY	QTY	QTY	QTY	QTY	QTY
COST	COST	COST	COST	COST	COST	COST
.505	1.855	2.254	4.445	3.191	3.139	15.389

BASIS FOR COST ESTIMATE: (Dollars in Millions)

	FY 77	FY 78	FY 79	FY 80	FY 81	FY 82	TOTAL PROGRAM
	QTY	QTY	QTY	QTY	QTY	QTY	QTY
	COST	COST	COST	COST	COST	COST	COST
Non Recurring:							
Airframe Provisions	.285						.285
Mod Kits		.473					.473
Suppressor B Kits		.461					.461
Recurring:							
Airframe Provisions	6 .220	6 .184	12 .270	12 .366	6 .224	42	1.264
Mod Kits				22 .823	29 1.146	51	1.969
Suppressor B Kits		6 .737	15 1.984	30 3.256	16 1.821	26 3.139	10.937
Application:							
Mod Kits (OMA-2207)					42 (.606)	9 (.138)	51 (.744)
TOTAL APA	.505	1.855	2.254	4.445	3.191	3.139	15.389

METHOD OF IMPLEMENTATION: Installation of 42 airframe provisions will be incorporated during the OV-1 cyclic overhaul and conversion programs beginning with the FY 77 funded delivery aircraft. The balance of the airframe modifications will be accomplished in the field by contract and/or depot contact teams. Installation time for field application of airframe provisions is estimated at 400 manhours. The suppressor B Kit is to be provided to the field and installed on a mission required basis. Installation time for the B Kit is estimated at 8 manhours by AVUM level personnel.

KIT DELIVERY SCHEDULE:

	FY 79	FY 80	FY 81	FY 82
	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4
Mod Kits (Field Application)		6	12 12 12 9	

INSTALLATION SCHEDULE:

Mod Kits (Field Application)	6 12 12 12 9
------------------------------	--------------

81 11-16

CLASSIFICATION		FY 80 BUDGET ESTIMATE																																																					
REPORTS CONTROL SYMBOL DD-COMP (AR) 1092	AIRCRAFT MODIFICATION		DATE 1 JAN 1979																																																				
APPROPRIATION/BUDGET ACTIVITY APA/2		MODIFICATION TITLE AND NO. XM -130 General Purpose Dispenser 1-79-01-1079-B																																																					
<p>AIRCRAFT AFFECTED: OV-1D, SSN AZ3530</p> <p>DESCRIPTION/JUSTIFICATION: Type of Improvement - Operational Capability. The XM-130 dispenser system provides effective countermeasures against radar, AAA and infrared missile threats. The system incorporates appropriate design features of existing decoy dispensing systems.</p> <p>DEVELOPMENT STATUS: DEV: IPR-Aug 1977 1st Production Award - Sep 1977 for CH-47 Aircraft 1st Phase Engineer Award - 1Q 79</p> <table border="0"> <tr> <td>MILESTONES:</td> <td>FY 79</td> <td>FY 80</td> <td>FY 81</td> </tr> <tr> <td>ECP Approval</td> <td>4Q 79</td> <td>1Q 80</td> <td>1Q 81</td> </tr> <tr> <td>Contract Award Kits</td> <td></td> <td>6 months</td> <td>6 months</td> </tr> <tr> <td>Leadtime</td> <td></td> <td>3Q 80</td> <td>2Q 81</td> </tr> <tr> <td>Kit Delivery Start</td> <td></td> <td>3Q 80</td> <td>3Q 81</td> </tr> <tr> <td>Kit Installation Start</td> <td></td> <td></td> <td></td> </tr> <tr> <td>XM-130 Production</td> <td>2Q 79</td> <td>1Q 80</td> <td></td> </tr> <tr> <td>Contract Award</td> <td>6 months</td> <td>6 months</td> <td></td> </tr> <tr> <td>Production Leadtime</td> <td>4Q 79</td> <td>3Q 80</td> <td></td> </tr> <tr> <td>XM-130 Delivery Start</td> <td></td> <td></td> <td></td> </tr> </table> <p>PROJECT FINANCIAL PLAN (Amounts in Millions of Dollars):</p> <table border="0"> <tr> <td>FY 79</td> <td>FY 80</td> <td>FY 81</td> <td>TOTAL PROGRAM</td> </tr> <tr> <td>QTY COST</td> <td>QTY COST</td> <td>QTY COST</td> <td>QTY COST</td> </tr> <tr> <td>.540</td> <td>.771</td> <td>.449</td> <td>1.760</td> </tr> </table>				MILESTONES:	FY 79	FY 80	FY 81	ECP Approval	4Q 79	1Q 80	1Q 81	Contract Award Kits		6 months	6 months	Leadtime		3Q 80	2Q 81	Kit Delivery Start		3Q 80	3Q 81	Kit Installation Start				XM-130 Production	2Q 79	1Q 80		Contract Award	6 months	6 months		Production Leadtime	4Q 79	3Q 80		XM-130 Delivery Start				FY 79	FY 80	FY 81	TOTAL PROGRAM	QTY COST	QTY COST	QTY COST	QTY COST	.540	.771	.449	1.760
MILESTONES:	FY 79	FY 80	FY 81																																																				
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	FY 79 QTY COST	FY 80 QTY COST	FY 81 QTY COST	FY 82 QTY COST	TOTAL PROGRAM QTY COST
Non Recurring (1st Phase)	.310	.046	.060		.416
Hardware Dispensers	18 .198	60 .513	26 .235		104 .946
STE	.032	.110	.048		.190
Airframe Mod Kits		40 .087	46 .106		86 .193
Production Mod Sets		7 .015			7 .015
Kit Application (OMA)		(15)(.044)	(40)(.123)	(31)(.101)	(86) (.268)
Total	.540	.771	.449		1.760

METHOD OF IMPLEMENTATION: Seven (7) OV-1Ds will be modified during the OV-1 Conversion Program. Eighty-six (86) aircraft will be modified at user locations by either contract or depot contact teams. The initial installation will occur on 1 aircraft as part of the ECP/MWO effort during 2Q FY 79. 80 hours installation per kit is estimated.

A KIT DELIVERY SCHEDULE:

	FY 80	FY 81	FY 82
	1 2 3 4	1 2 3 4	1 2 3 4
	5 15	10 10 10 5	10 10 10 1

A KIT INSTALLATION SCHEDULE:

Field Installations	5 10	10 10 10 10	10 10 10 1
---------------------	------	-------------	------------

BUL 10-18

CLASSIFICATION		FY 80 BUDGET ESTIMATE																																																			
REPORTS CONTROL SYMBOL DD-COMP (AR) 1082	AIRCRAFT MODIFICATION	DATE 1 JAN 1979																																																			
APPROPRIATION/BUDGET ACTIVITY APA/2	MODIFICATION TITLE AND NO. VIDS (OV-ID) PIP 1-76-01-0303B	Fibre Optics Indicators																																																			
SSN: AZ3530																																																					
AIRCRAFT AFFECTED: OV-ID																																																					
<p>DESCRIPTION/JUSTIFICATION: Type of Improvement - Reliability and Maintainability. This improvement will retrofit OV-ID (MOHAWK) aircraft with a fibre optics Vertical Instrumentation Display System (VIDS). The replacement system will be solid-state with no moving parts. The current system, which is to be replaced, has demonstrated unacceptable reliability and costs.</p> <p>DEVELOPMENT STATUS: First article VIDS units have completed environmental, reliability and electromagnetic interference testing in laboratories, and one system has undergone 350 hours of flight testing. No deficiencies or shortcomings have resulted from tests of the VIDS. An additional 450 hours of flight testing is scheduled and funded.</p>																																																					
<p>MILESTONES:</p> <p>(93 OV-ID Aircraft)</p> <table border="1"> <thead> <tr> <th></th> <th>FY 77</th> <th>FY 78</th> <th>FY 79</th> <th>FY 80</th> </tr> </thead> <tbody> <tr> <td>FECF Approval</td> <td></td> <td>Mar 78</td> <td></td> <td></td> </tr> <tr> <td>Contract Award - OV-ID Kits (93 ea)</td> <td></td> <td>4Q</td> <td>2Q</td> <td></td> </tr> <tr> <td>Contract Award - VIDS (59 ea)</td> <td>Sep 77</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Contract Award - Unit Test Sets (10 ea)</td> <td>Sep 77</td> <td>Jul 78</td> <td>4Q</td> <td>2Q</td> </tr> <tr> <td>Delivery - Kits (20/month)</td> <td></td> <td>4Q</td> <td></td> <td></td> </tr> <tr> <td>Delivery - Unit Test Sets</td> <td></td> <td>4Q</td> <td></td> <td></td> </tr> <tr> <td>Delivery - Flight Line Test Set</td> <td></td> <td>4Q</td> <td></td> <td></td> </tr> <tr> <td>Delivery - VIDS</td> <td></td> <td></td> <td></td> <td>1Q</td> </tr> <tr> <td>Installation - Kits (93 aircraft)</td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>					FY 77	FY 78	FY 79	FY 80	FECF Approval		Mar 78			Contract Award - OV-ID Kits (93 ea)		4Q	2Q		Contract Award - VIDS (59 ea)	Sep 77				Contract Award - Unit Test Sets (10 ea)	Sep 77	Jul 78	4Q	2Q	Delivery - Kits (20/month)		4Q			Delivery - Unit Test Sets		4Q			Delivery - Flight Line Test Set		4Q			Delivery - VIDS				1Q	Installation - Kits (93 aircraft)				
	FY 77	FY 78	FY 79	FY 80																																																	
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Delivery - VIDS				1Q																																																	
Installation - Kits (93 aircraft)																																																					
PROJECT FINANCIAL PLAN: (\$ MILLIONS)																																																					
OV-ID (93 aircraft)	FY 76	FY 77	FY 78	FY 79	FY 80	FY 81	FY 82	TOTAL																																													
P&MA Principal	(.191)	1.640	.180	.185	.496	(.070)	(.063)	3.501																																													
O&MA		(.397)	(.120)		(.062)			(.903)																																													

1-61 - 1/22/79
 EXHIBIT P. 3a

PIP DESCRIPTION: Fibre Optics Indicators, VIDS

SYSTEM: OV-1D

PIP NO: 1-76-01-0303B

PROJECT FINANCIAL PLAN: (\$ Millions)

	FY 76		FY 77		FY 78		FY 79		FY 80		FY 81		FY 82	
	Qty	Cost	Qty	Cost	Qty	Cost	Qty	Cost	Qty	Cost	Qty	Cost	Qty	Cost
OV-1D (93 Aircraft)														
VIDS - PEMA Principal	42	1.510			42	.180	37	1.062	14	.389				
Kits - PEMA Principal							35	.123	16	.074				
Test Sets - PEMA Princ	13	.130												
Production Incorporation									8	.033				
Data & Instln - (O&MA)									42	(.064)	35	(.056)	16	(.027)
Total		1.640				.180		1.185		.496				

TOTAL PROGRAM	
Qty	Cost
93	2.961
93	.377
13	.130
8	.033
93	(.147)
Total	3.501

SU 10-20

1 JAN 1979

SYSTEM: OV-1D PIP NO: 1-76-01-0303B PIP DESCRIPTION: Fibre Optics Indicators, VIDS

METHOD OF IMPLEMENTATION: Modification will be accomplished at Direct Support Maintenance via MWO action on 86 aircraft. Modification will be accomplished by the prime contractor during conversion of 7 aircraft.

KIT DELIVERY SCHEDULE:

	FY 77				FY 78				FY 79				FY 80				FY 81				FY 82			
OV-1D	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
VIDS																								
Kits								6	13	18	10	24	22											
Test Set - Unit													20	20	18									
Test Set - Flight Line									3	3	3	3												

INSTALLATION SCHEDULE:

	FY 77				FY 78				FY 79				FY 80				FY 81				FY 82			
OV-1D	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Completions:																								
OV-1D																								
									15	20		20	20	18										

1-63 - 1/22/79

8U 10-22

CLASSIFICATION		FY 80 BUDGET ESTIMATE		DATE 1 JAN 1979	
REPORTS CONTROL SYMBOL DD-COMP (AR) 1092		AIRCRAFT MODIFICATION			
APPROPRIATION/BUDGET ACTIVITY APA/2		SSN AZ3530	MODIFICATION TITLE AND NO. KY-58/TSEC Voice Security PIP 1-78-01-0865-D		
AIRCRAFT AFFECTED: OV-1					
DESCRIPTION/JUSTIFICATION: Type of Improvement - Operational Capability					
<p>The KY-58 (Vinson) Combat Net Security is to replace the KY-28/TSEC equipment. The KY-58/TSEC is not compatible with the KY-28/TSEC. The KY-58/TSEC through the use of an adapter will utilize the existing KY-28/TSEC wiring. The KY-58/TSEC remote control unit Z-AHP is larger than the KY-28/TSEC RCU, and therefore, it requires a MW0/Kit to reconfigure the console. Black boxes will be procured with NSA funding and will be distributed by the same procedure currently utilized for the KY-28/TSEC.</p>					
DEVELOPMENT STATUS:					
NSA has developed the KY-58/TSEC System.					
MILESTONES FOR AIRFRAME:					
	FY 78	FY 79	FY 80	FY 81	
Contract Award for ECP	4Q				
ECP Approval		3Q			
Contract Award for Kits		3Q			
Kit Installation Start			3Q		
Kit Installation Completed				4Q	

1-64 - 1/22/79

SYSTEM: OV-1 PIP NO: 1-78-01-0865-D PIP DESCRIPTION: KY-58/TSEC Voice Security

PROJECT FINANCIAL PLAN: (Amounts in millions of dollars)

<u>FY 78</u>	<u>FY 79</u>	<u>FY 80</u>	<u>Total</u>
.000	.022	.025	.047

BASIS FOR COST ESTIMATE: (Amounts in millions of dollars)

	FY 78		FY 79		FY 80		FY 81		TOTAL	
	Qty	Amt	Qty	Amt	Qty	Amt	Qty	Amt	Qty	Amt
Non-Recur (OMA)		(.581)		(.085)		(.054)		(.057)		(.777)
Kits			86	.022	83	.025			169	.047
Kit Application (OMA)					86	.125	83	(.127)	169	(.252)
TOTAL		.000		.022		.025		.000		.047

PIP DESCRIPTION: KY-58/TSEC Voice Security

PIP NO: 1-78-01-0865-D

SYSTEM: OV-1

BASIS FOR COST ESTIMATES: (Amounts in millions of dollars)

	FY 78		FY 79		FY 80		FY 81		FY 82		TOTAL	
	Qty	Amt	Qty	Amt	Qty	Amt	Qty	Amt	Qty	Amt	Qty	Amt
Non-Recur (OMA)												
OV-1		(.581)		(.085)		(.054)		(.057)				(.777)
Subtotals		(.581)		(.085)		(.054)		(.057)				(.777)
<u>Kits</u>												
OV-1	86	.022	83	.025							169	.047
Subtotals	86	.022	83	.025								
<u>Kit Installation</u>												
OV-1	86	(.125)	83	(.127)							169	(.252)
Subtotals	86	.125	83	.127							169	.252
TOTALS												
POMA		.022		.025								.047
(OMA)		(.581)		(.085)		(.179)		(.184)				(1.029)

FY 80 BUDGET ESTIMATE

AIRCRAFT MODIFICATIONS				EXHIBIT P-3			
APPROPRIATION		SSN: AZ2900	MODIFICATION NUMBER	DESCRIPTION OF MODIFICATION	NUMBER AIRCRAFT	DATE 1 JAN 1979	TOTAL COST (Thousands)
APA/2	AIRCRAFT MODEL						
RU-21 A/B C/H	1-77-01-0899-A-S	Weather Radar* Non Recur GFE GFE (Float) Kits	34 6 34	14,735 14,000 2,500	173 501 84 85		
RU-21 A/B/ C/H	1-78-01-1283-A	AN/APR-39(V)2 RDR WNG SYS Non Recur Kits	11 32	27,000 10,625	297 208 340		
RU-21 A/B/ C/H	1-78-01-1281-A-I	AN/APR-44 CW RDR WNG RCVR R2098 Receiver Non Recur	17 19	10,000 4,000	170 76 221		
RU-21 A/B/ C/D/H	1-78-01-0868-A-S	AN/ARC-164* Kits	13	3,538	46		
RU-21 A/B/ C/D/H	1-79-01-1201-A	Fuel Filter Drain Kits	42	24	1		
RU-21H	1-76-01-0059-G-I	GUARDRAIL V			203		
TOTAL					2,405		
* Consolidated P-3A				1-67 + 1/22/79	11-1		

11-1

1-67 + 1/22/79

Previous editions are obsolete.

FY 80 Budget Estimate

CLASSIFICATION		AIRCRAFT MODIFICATION		DATE
REPORTS CONTROL SYMBOL	DD-COMP (AR) 1092			1 JAN 1979
APPROPRIATION/BUDGET ACTIVITY		MODIFICATION TITLE AND NO.		
APA/2		Weather Radar AN/APN-215		
		PIP # 1-77-01-0899,		AZ2900 (RU-21)
<p>AIRCRAFT AFFECTED: RU-21A/B/C/D/H & JU-21A</p>				
<p>DESCRIPTION/JUSTIFICATION: Type of Improvement - Operational Capability. Since the existing Weather Radar unit (APN-158) is not procureable from Collins Radio, it has been very difficult to provide spare parts. Cannibalization has started and unless a replacement unit with adequate support is provided, the aircraft will not be able to perform missions in a safe manner under all weather conditions.</p>				
<p>DEVELOPMENT STATUS: DAVAA-E started in May 77 on a two step formal advertising (off-the-shelf) procurement of the AN/APN-215 with a five year warranty. 3rd Qtr FY 79 is the target date for a production GFE award with an option award in the 1st Qtr FY 80. Production rate will be approximately 9 per month commencing within 6-8 months after contract award.</p>				
<p>MILESTONES FOR AIRFRAME:</p>				
		FY 79	FY 80	FY 81
Contract Award for ECP		1Q 79	(3Q 80)	
ECP Approval		2Q 80	(3Q 80)	
Contract Award (Kits)			4Q 80, (1Q 82)	
Production Rate (Kits)			9 Months	
Leadtime (Kits)			6 Months	
1st Kit Delivery			2Q 81, (3Q 82)	
Installation Starts			3Q 81	(3Q 82)
Installation Completed				2Q 82, (4Q 82)
<p>Milestones in parentheses will not occur if:</p>				
<p>*The RU-21A, RU-21D & JU-21A are similar to prototype aircraft U-21 A and</p>				
<p>*The RU-21H is similar to prototype aircraft U-21G and</p>				
<p>*The RU-21C is similar to prototype aircraft RU-21B.</p>				

SYSTEM: RU-21 PIP No. 1-77-01-0899

P-3a: Weather Radar
JAN 1979 Page 2 of 3

Project Financial Plan: (Dollars in Millions)
RU-21

FY 79 .126
FY 80 .843
TOTAL PROGRAM .969

Basis For Cost Estimates: (Dollars in Millions)

	FY 79		FY 80		TOTALS	
	Qty	Amount	Qty	Amount	Qty	Amount
Non-Recur (In house)						
RU-21		.018		.122		.140
Subtotal						
Non-Recur (Contractor)						
RU-21		.071		.051		.122
Subtotal						
GFE (Aircraft)						
RU-21	2	.025	34	.501	36	.526
Subtotals						
GFE (Float)						
RU-21	-	-	6	.084	6	.084
Subtotal						
GFE (1st Article)						
RU-21	1	.012	-	-	1	.012
Subtotal						
Kits						
RU-21	-	-	34	.085	34	.085
Subtotal						
RU-21 Totals		.126		.843		.969

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SYSTEM: RU-21 PIP NO: 1-77-01-0899

BASIC FOR COST ESTIMATE: (Amounts in millions of dollars)

1 JAN 1979

	FY 78 & Prior		FY 79		FY 80		FY 81		FY 82		TOTALS	
	Qty	Amt	Qty	Amt	Qty	Amt	Qty	Amt	Qty	Amt	Qty	Amt
Installation (OMA)												
RU-21							(1)	(.004)	(33)	(.118)	(34)	(.122)
TOTALS												
Engineering (OMA)												
RU-21		(.067)		(.147)		(.416)		(.062)		(.007)		(.699)
TOTALS												

METHOD OF IMPLEMENTATION: Application of kits can be by depots, contract teams, modification lines, and field units at direct support level.

	FY 81 OTRS				FY 82 OTRS				TOTALS	
	1	2	3	4	1	2	3	4	Qty	Amt
Kit Delivery Schedule										
RU-21		1	-	-	-	9	24	-	34	
TOTALS										
Kit Install Schedule										
RU-21	-	-	1	-	-	-	9	24	34	
TOTALS										

FY 80 BUDGET ESTIMATE

REPORTS CONTROL SYMBOL DD-COMP (AR) 1082	AIRCRAFT MODIFICATION		DATE 1 JAN 1979																								
APPROPRIATION/BUDGET ACTIVITY APA/2 SSN A22900	MODIFICATION TITLE AND NO. 1-78-01-1283-A AN/APR-39(V)2 Radar Warning System																										
AIRCRAFT AFFECTED: RU-21A/B/C/H Airplane																											
<p>DESCRIPTION/JUSTIFICATION: Type of Improvement - Operational Capability. The AN/APR-39(V)2 Radar Warning System provides information to the aircraft crew concerning the radar environment about the aircraft. The system is capable of effective operation in a dense signal environment consisting of threat, enemy non-threat, and friendly emitters.</p>																											
<p>DEVELOPMENT STATUS: Initiate Airframe Engineering: 1Q FY 79 EMI/EMC-Flight Test: 3Q FY 79 Production Decision/ECP Approval 4Q FY 79</p>																											
MILESTONES:		<table border="0"> <tr> <td></td> <td><u>FY 79 EST DATE</u></td> <td><u>FY 80 EST DATE</u></td> </tr> <tr> <td>Mod Kit Contract Award</td> <td>1Q FY 79</td> <td>1Q FY 80</td> </tr> <tr> <td>Production Lead Time</td> <td></td> <td>11 months</td> </tr> <tr> <td>Mod Kit Delivery Start</td> <td></td> <td>1Q FY 81</td> </tr> <tr> <td>Kit Installations Start</td> <td></td> <td>2Q FY 81</td> </tr> <tr> <td>AN/APR-39(V)2 System Contract Award</td> <td>3Q FY 79</td> <td>1Q FY 80</td> </tr> <tr> <td>Production Lead Time</td> <td></td> <td>14 months</td> </tr> <tr> <td>AN/APR-39(V)2 System Deliveries Start</td> <td>4Q FY 80</td> <td>2Q FY 81</td> </tr> </table>			<u>FY 79 EST DATE</u>	<u>FY 80 EST DATE</u>	Mod Kit Contract Award	1Q FY 79	1Q FY 80	Production Lead Time		11 months	Mod Kit Delivery Start		1Q FY 81	Kit Installations Start		2Q FY 81	AN/APR-39(V)2 System Contract Award	3Q FY 79	1Q FY 80	Production Lead Time		14 months	AN/APR-39(V)2 System Deliveries Start	4Q FY 80	2Q FY 81
	<u>FY 79 EST DATE</u>	<u>FY 80 EST DATE</u>																									
Mod Kit Contract Award	1Q FY 79	1Q FY 80																									
Production Lead Time		11 months																									
Mod Kit Delivery Start		1Q FY 81																									
Kit Installations Start		2Q FY 81																									
AN/APR-39(V)2 System Contract Award	3Q FY 79	1Q FY 80																									
Production Lead Time		14 months																									
AN/APR-39(V)2 System Deliveries Start	4Q FY 80	2Q FY 81																									
PROJECT FINANCIAL PLAN (\$ in Millions):		<table border="0"> <tr> <td><u>QTY</u></td> <td><u>FY 79</u></td> <td><u>FY 80</u></td> <td><u>TOTAL PROGRAM</u></td> </tr> <tr> <td></td> <td><u>COST</u></td> <td><u>COST</u></td> <td><u>QTY</u></td> </tr> <tr> <td></td> <td>1,584</td> <td>.845</td> <td>2,429</td> </tr> </table>		<u>QTY</u>	<u>FY 79</u>	<u>FY 80</u>	<u>TOTAL PROGRAM</u>		<u>COST</u>	<u>COST</u>	<u>QTY</u>		1,584	.845	2,429												
<u>QTY</u>	<u>FY 79</u>	<u>FY 80</u>	<u>TOTAL PROGRAM</u>																								
	<u>COST</u>	<u>COST</u>	<u>QTY</u>																								
	1,584	.845	2,429																								

PIP DESCRIPTION: AN/APR-39(V)2

PIP NO: 1-78-01-1283-A

SYSTEM: RU-21

BASIS FOR COST ESTIMATE (\$ in Millions)

	FY 79		FY 80		FY 81		TOTAL PROGRAM	
	QTY	COST	QTY	COST	QTY	COST	QTY	COST
<u>Non-Recurring</u>								
Contractual		.346		.150				.496
GOVT Eng Support		.088		.058				.146
<u>Recurring</u>								
AN/APR-39(V)2 Systems	28	.716	11	.297				1.013
AN/APM-415 Test Set Processors	6	.372					6	.372
Memory Chip Programmers	6	.062					6	.062
Airframe Mod Kits			32	.340			32	.340
Installations-OWA)		<u>1.584</u>					(32)	(.148)
Total				<u>.845</u>				<u>2.429</u>

METHOD OF INSTALLATION: Airframe modification kits will be installed per end item ECP. One each RU-21 A/B/C&H will be modified during the engineering phase. Balance of aircraft will be modified by contractor teams at user locations.

AIRFRAME MOD KIT DELIVERY SCHEDULE:

FY 81	
1	2
2	3
3	4
4	
5	
6	
7	
8	
9	
10	
11	
12	
13	
14	
15	
16	
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29	
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31	
32	

FIELD INSTALLATION SCHEDULES:

12	12	8
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FY 80 BUDGET ESTIMATE

REPORTS CONTROL SYMBOL DD-COMP (AR) 1082		AIRCRAFT MODIFICATION		DATE 1 JAN 1979																																												
APPROPRIATION/BUDGET ACTIVITY		APA/2 SSN AZ2900	MODIFICATION TITLE AND NO. 1-78-01-1281-B																																													
AIRCRAFT AFFECTED: RU-21A/B/C/H		AN/APR-44 Continuous Wave Radar Warning Receiver																																														
<p>DESCRIPTION/JUSTIFICATION: Type of Improvement - Operational Capability. The AN/APR-44 CW RWR is to be installed on the RU-21 aircraft to provide detection and crew warning of continuous wave emissions from hostile air defense radar systems.</p> <p>DEVELOPMENT STATUS: Airframe Integration Design Initiated - Jun 78 Prototype complete - 2Q 79 Effectiveness Testing Complete - 3Q 79</p> <p>MILESTONES:</p> <table border="0"> <tr> <td>Contract Award, ECP</td> <td>FY 78</td> <td>FY 79</td> <td>FY 80</td> </tr> <tr> <td>ECP Approval</td> <td>Jun 78</td> <td></td> <td></td> </tr> <tr> <td>Airframe Kit Contract Award</td> <td>4Q 79</td> <td>4Q 79</td> <td></td> </tr> <tr> <td>Production Lead Time</td> <td></td> <td>6 months</td> <td></td> </tr> <tr> <td>Kit Delivery Starts</td> <td>1Q 79</td> <td>3Q 79</td> <td>1Q 80</td> </tr> <tr> <td>APR-44 Contract Award</td> <td>8 months</td> <td>6 months</td> <td>6 months</td> </tr> <tr> <td>Production Lead Time</td> <td>3Q 79</td> <td>1Q 80</td> <td>3Q 80</td> </tr> <tr> <td>APR-44 Delivery Starts</td> <td></td> <td></td> <td></td> </tr> </table> <p>PROJECT FINANCIAL PLAN (Amounts in Millions of Dollars)</p> <table border="0"> <tr> <td>FY 78</td> <td>FY 79</td> <td>FY 80</td> <td>TOTAL PROGRAM</td> </tr> <tr> <td>QTY COST</td> <td>QTY COST</td> <td>QTY COST</td> <td>QTY COST</td> </tr> <tr> <td>.379</td> <td>.093</td> <td>.467</td> <td>.939</td> </tr> </table>					Contract Award, ECP	FY 78	FY 79	FY 80	ECP Approval	Jun 78			Airframe Kit Contract Award	4Q 79	4Q 79		Production Lead Time		6 months		Kit Delivery Starts	1Q 79	3Q 79	1Q 80	APR-44 Contract Award	8 months	6 months	6 months	Production Lead Time	3Q 79	1Q 80	3Q 80	APR-44 Delivery Starts				FY 78	FY 79	FY 80	TOTAL PROGRAM	QTY COST	QTY COST	QTY COST	QTY COST	.379	.093	.467	.939
Contract Award, ECP	FY 78	FY 79	FY 80																																													
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QTY COST	QTY COST	QTY COST	QTY COST																																													
.379	.093	.467	.939																																													

1-73 - 1/22/79

SYSTEM: RU-21 PIP No. 1-78-01-1281-B
BASIS FOR COST ESTIMATE: (Amounts in Millions of Dollars)

DESCRIPTION: CW Radar Warning Receiver

	FY 78		FY 79		1 JAN 1979		TOTAL PROGRAM	
	QTY	COST	QTY	COST	QTY	COST	QTY	COST
Phase I Engrg/Test		.194						.194
Airframe Mod Kits			22	.044			22	.044
Production Mod Parts	3	.006					6	.006
APR-44 Systems	16	.113	3	.014	17	.170	36	.297
R2098 Receivers					19	.076	19	.076
SITE		.026		.003				.029
Warranty		.023		.004		.060		.087
Non-Recurring, Contr		.017		.024		.126		.167
Engrg Support, CERCOM				.004		.035		.039
Application (OMA-2207)					22	(.051)	22	(.051)
TOTAL APA		.379		.093		.467		.939

METHOD OF IMPLEMENTATION: As part of the Phase I engineering effort, 3 prototype airframe modifications will be applied and 2 proof kits will be delivered for installation verification. In addition, 3 airframe modifications will be applied during the conversion program. The balance of the airframe modifications will be accomplished in the field by contract and/or depot contact teams.

DELIVERY SCHEDULE:

Airframe Proof Kits
Airframe Mod Kits

	FY 79		FY 80		FY 81	
	1	2	3	4	1	2
	3	4	3	4	3	4
	8		8		8	
	22		22		22	

INSTALLATION SCHEDULE:

Airframe Proof Kits
Airframe Mod Kits

8 14 8

CLASSIFICATION		FY 80 BUDGET ESTIMATE																																								
REPORTS CONTROL SYMBOL DD-COMP (AR) 1092	AIRCRAFT MODIFICATION	DATE 1 JAN 1979																																								
APPROPRIATION/BUDGET ACTIVITY APA/2	SSN AZ2900	MODIFICATION TITLE AND NO. 1-79-01-1201-A Fuel Filter Drain																																								
<p><u>AIRCRAFT AFFECTED:</u> RU-21A/B/C/D/H</p> <p><u>DESCRIPTION/JUSTIFICATION:</u> Type of Improvement-Reliability Availability, Maintainability. The present fuel filter drain assembly is located inside the engine nacelle making it difficult to use. Installation of new type fuel filter drain, as currently used on the U-8 aircraft, will improve the accessibility of this drain.</p> <p><u>DEVELOPMENT STATUS:</u> This equipment is currently available and installed on the U-8. No new development is required.</p> <p><u>MILESTONES:</u></p> <table border="0"> <thead> <tr> <th></th> <th>FY 79</th> <th>FY 80</th> </tr> </thead> <tbody> <tr> <td>Initiate Engineering</td> <td>1Q</td> <td></td> </tr> <tr> <td>ECP Approved</td> <td>2Q</td> <td></td> </tr> <tr> <td>MWO</td> <td>4Q</td> <td></td> </tr> <tr> <td>Contract Award for Kits</td> <td></td> <td>1Q</td> </tr> <tr> <td>Kit Deliveries Begin</td> <td></td> <td>2Q</td> </tr> <tr> <td>Kit Installation Starts</td> <td></td> <td>2Q</td> </tr> <tr> <td>Last Kit Applied</td> <td></td> <td>4Q</td> </tr> </tbody> </table> <p><u>PROJECT FINANCIAL PLAN:</u> (\$ millions)</p> <table border="0"> <thead> <tr> <th></th> <th>FY 79</th> <th>FY 80</th> </tr> </thead> <tbody> <tr> <td>QTY</td> <td>42</td> <td>42</td> </tr> <tr> <td>Amt</td> <td>.001</td> <td>.001</td> </tr> </tbody> </table> <p><u>TOTAL PROGRAM</u></p> <table border="0"> <thead> <tr> <th></th> <th>QTY</th> <th>Amt</th> </tr> </thead> <tbody> <tr> <td></td> <td>42</td> <td>.001</td> </tr> </tbody> </table>					FY 79	FY 80	Initiate Engineering	1Q		ECP Approved	2Q		MWO	4Q		Contract Award for Kits		1Q	Kit Deliveries Begin		2Q	Kit Installation Starts		2Q	Last Kit Applied		4Q		FY 79	FY 80	QTY	42	42	Amt	.001	.001		QTY	Amt		42	.001
	FY 79	FY 80																																								
Initiate Engineering	1Q																																									
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QTY	42	42																																								
Amt	.001	.001																																								
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	42	.001																																								

DRSAY-C Form 1 May 76 2075

1-75 - 1/22/79

P-1 SHOPP LIST
ITEM NO.

PAGE NO.

CLASSIFICATION BUJ 11-9

EXHIBIT P-3a

SYSTEM: RU-21A/B/C/D/H PIP NO: 1-79-01-1201-A-S PIP DESCRIPTION: Fuel Filter Drain

BASIS FOR COST ESTIMATE: (\$ millions)

	<u>FY 79</u>		<u>FY 80</u>		<u>TOTAL PROGRAM</u>	
	<u>Qty</u>	<u>Amt</u>	<u>Qty</u>	<u>Amt</u>	<u>Qty</u>	<u>Amt</u>
Kits						
Non Recur (OMA)			42	.001	42	.001
Instl (OMA)		(.012)		(.012)		(.012)
TOTAL			42	(.004)	42	(.004)
				.001		.001

METHOD OF IMPLEMENTATION: Field installation by Modification Work Order (MMO).

KIT DELIVERY SCHEDULE:

<u>FY 80</u>			
1	2	3	4
			42

Qty/Qtyr

INSTALLATION SCHEDULE:

<u>FY 80</u>			
1	2	3	4
		8	20 14

Qty/Qtyr

811 11 - 10

FY 80 BUDGET ESTIMATE		DATE 1 JAN 1979	
AIRCRAFT MODIFICATION		MODIFICATION TITLE AND NO. GUARDRAIL V, PIP 1-76-01-	
SSN: AZ2900		0559-G-I	
AIRCRAFT TYPE AFFECTED: RU-21H			
<p>DESCRIPTION/JUSTIFICATION: Type of Improvement - Operational capability. This program will upgrade the configuration of existing GUARDRAIL IIA and IV systems to the Improved GUARDRAIL V configuration and provide for the production of two new GUARDRAIL V systems. As a result, tactical field commanders will be provided the timely intelligence information necessary to make correct decisions on the battlefield. The GUARDRAIL V system configuration will have significant advantages over the existing GUARDRAIL IIA and IV systems. All of the major subsystems including the RU-21H aircraft, will have improvements to increase overall systems effectiveness. Ground based electronic data processing equipment, vans, shelters, vehicles and ground support, and special test equipment is being procured for two operational systems. The GR II and GR IV units currently deployed will require modification to the aircraft to incorporate improvements in airframe and mission electronics. The ground based electronic data processing equipment will be updated to the Guardrail V configuration to further enhance the logistics support capability through commonality of equipments.</p> <p>DEVELOPMENT STATUS: Contract DAAB07-76-C-1950 was signed on 30 June 1976. The contract requires the manufacture, testing, integration, and delivery of the first of four GUARDRAIL V systems. The contract option for FY 77 was exercised in Dec 76, and requires the delivery of two additional aircraft and four sets of additional airborne mission equipment required to complete the first system. This additional equipment will be available for delivery as part of the first system. The FY 77 option also contains requirements for delivery of a second complete GUARDRAIL V system, and the first three aircraft for the third system. The contract option for FY 78 was exercised 21 Dec 77, and provided for the procurement/delivery for the third and fourth complete GUARDRAIL system.</p>			

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DRAV-C Form 2075
1 May 76

P-1 SHOPP LIST
ITEM NO.

PAGE NO.

CLASSIFICATION BU 11-11 EXHIBIT P-3d

PIP DESCRIPTION: GUARDRAIL V

PIP NO: 1-76-01-0559-G-I

SYSTEM: RU-21H

MILESTONES:

Contract Award ESL
Input 3 E's & IG Acft to Beech
Beech Start Del Conver Acft to ESL
First GR V Sys Calibration and
Tempest Testing Compl
First GR Sys Avail
First GR V Sys Oper
GR IIA Sys Return
Contract Option Awd ESL
Start Input of (8) U-21G & (3) RU-21D
Acft to Beech
Beech Start Del Conver Acft to ESL
Second GR V Sys Avail
Second GR V Sys Oper
Contract Option Awd ESL
Start Input of RU-21H (6) (GR IIA)
Acft to Beech
Beech Start Del Conver Acft to ESL
GR IV Systems Returns
Start Input RU-21H (GR IV) Acft to
Beech
Third GR Sys Avail
Third GR Sys Oper
Fourth Sys Avail
Fourth Sys Oper
GR Float Acft Avail

	FY 76	FY 77	FY 78	FY 79	FY 80
1. Operating Expenses	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000
2. Capital Expenses	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000
3. Debt Service	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000
4. Reserve for Contingencies	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000
5. Other	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000
Total	5,000,000	5,000,000	5,000,000	5,000,000	5,000,000

30 Jun 76

Nov 77

4Q 4Q

2Q 2Q

30 Dec 76

Jan 78

1Q 2Q

21 Dec 77

1Q 3Q 3Q 3Q

1Q 2Q 2Q 3Q 3Q

1-78 - 1/22/79

11-12

PIP DESCRIPTION: GUARDRAIL V

PIP NO: 1-76-01-0559

SYSTEM: RU-21H

PROJECT FINANCIAL PLAN: (\$ MILLIONS)

FY 76		FY 77		FY 78		FY 79		FY 80		TOTAL PROGRAM	
Qty	Amt	Qty	Amt	Qty	Amt	Qty	Amt	Qty	Amt	Qty	Amt
4	14.100	11	23.044	12	21.700		1.900		.203	27	60.947

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1-79 - 1/22/79

SYSTEM: RU-21H PIP NO: 1-76-01-0559

BASIS FOR COST ESTIMATES: (\$ MILLIONS)

MISSION SUBSYSTEMS	FY 76 Qty	FY 76 Amt	FY 77 Qty	FY 77 Amt	FY 78 Qty	FY 78 Amt	FY 79 Qty	FY 79 Amt	FY 80 Qty	FY 80 Amt	TOTAL QTY	PROGRAM AMT
Integrated Processing Facility (IPF)	1	3.637	1	2.963	2	5.616					4	12.216
Van, IPF (EMPTY)	7	.115									7	.115
Airborne Relay Facility (ARF)	2	2.242	10	5.257	12	5.728					24	13.227
Aircraft Ground Equipment (AGE)	1	.742	1	.563	2	1.000					4	2.305
Tactical Commanders Terminal (TCT)			27	.810	9	.250					36	1.060
Aircraft Modification	4	2.516	11	6.916	12	3.931					27	13.363
GR IV Float	1	.473									1	.473
Export Training							.900					.900
Data		.486		1.213			1.000					2.699
Float		.500		2.596		3.051						6.147
Training (CONTR)				.287		.106						.393
SET-UP (CONTR)			1	.110	2	.137					3	.247
STE (CONTR)	1	.754	1	.430	2	.854					4	2.038
GFE		.635		1.899		1.027						3.561
Secure Interface	4	2.000									4	2.000
Level of Effort									.203			.203
IN-HOUSE SPT (OMA)		(.410)		(.790)		(.708)		(.800)		(.500)		(3.208)
NON-RECUR DATA (OMA)		(1.780)		(1.916)		(1.544)				(.968)		(6.208)
INSTL (OMA)								(.160)		(.145)		(.413)
*TRNG (OMA)								(.033)		(.015)		(.048)
**OTHER (OMA)						(.100)		(.114)		(.346)		(.560)
TOTAL APA (PRIMARY)		14.100		23.044		21.700		1.900		.203		60.947

* Includes Project Handoff
**Project Handoff Only

ALL 11-14

1-80 - 1/22/79

SYSTEM: RU-21H PIP NO: 1-76-01-0559-G-I PIP DESCRIPTION: GUARDRAIL V

METHOD OF IMPLEMENTATION: Modification to the aircraft is to be accomplished by the airframe contractor at his plant under a subcontract to the prime mission equipment contractor. The aircraft will then be moved to the prime contractors facility where the mission equipment will be installed and tested. Concurrent with these actions, the prime contractor will be fabricating components of the ground mission and support equipment, integrating both contractor furnished and Government Furnished Components. All work will be done at contractor facilities in a production line operation.

KIT DELIVERY SCHEDULE: Not Applicable.

INSTALLATION SCHEDULE:

	FY 76	FY 77	FY 78	FY 79	FY 80
Inductions (Acft)	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4
Completions (Delivery By Subcontractor)	4	1 2 2 3	2 1	4 4 4	
Completions (Delivery By Contractor)			2 4 5 1 5 4 1 5	6 6 6	9

BU 11-15

FY 80 BUDGET ESTIMATE

AIRCRAFT MODIFICATIONS			EXHIBIT P-3		
APPROPRIATION	MODIFICATION NUMBER	DESCRIPTION OF MODIFICATION	FY	DATE	TOTAL COST (Thousands)
1. OV-1	1-75-01-0306-H	Quick Look Conversion	80	1 JAN 1979	8,975
2. RV-1	1-79-01-1183-A	AN/APR-39(V)2 -Production Incorporation	4		33
3. RV-1	1-78-01-0314-C	IR Suppressor -A/F Provisions -Mod Kits	11 4 12		1,137 142 503
4. RV-1	1-77-01-1181-B	AN/APR-44 -Receivers & STE -Kits -Non-Recur	14		161 87 10 140
5. RV-1	1-79-01-0884-A	XM-130 Dispenser -STE/Non-Recur -Kits -Production Application	12 27 4		103 34 59 12
6. RV-1	1-76-01-0303-B	Fibre Optics, Application	4		16
7. RV-1	1-78-01-0865-D	KY-58 Sec Voice	10		3
8. RV-1	1-78-01-0866-C*	AN/ARC-164 -Kits	13 10		134 13
*Consolidated P-3A			GRAND TOTAL		11,562
1-82 - 1/22/79					12-1

DMSTSC Form 1 Apr 78

2077

1 Apr 78

2077

CLASSIFICATION		FY 80 BUDGET ESTIMATE																																																							
REPORTS CONTROL SYMBOL DD-COMP (AR) 1092	AIRCRAFT MODIFICATION	DATE 1 JAN 1979																																																							
APPROPRIATION/BUDGET ACTIVITY APA/2	MODIFICATION TITLE AND NO. 1-75-01-0306-H-I	QUICK LOOK II																																																							
SSN: AZ2100																																																									
AIRCRAFT AFFECTED: OV-1B																																																									
<p>DESCRIPTION/JUSTIFICATION: Type of Improvement - Operational Capability. This modification will convert the OV-1B to the RV-1D configuration: including new propulsion system, landing gear, avionics/electronics, communication, navigation and surveillance systems, ground support and test equipment. The RV-1D will provide increased aircraft and mission performance and capability resulting from the new airborne (electronic-counter-measures surveillance system.) The system is planned for employment at Corps Level.</p> <p>DEVELOPMENT STATUS:</p> <p>Engineering Development Completed - August 1974 Testing - DT/OT II - Start September 1974; Complete November 1974 Type classification - Limited Production August 1974</p> <p>MILESTONES:</p> <table border="1"> <thead> <tr> <th></th> <th>FY 76</th> <th>FY 77</th> <th>FY 78</th> <th>FY 79</th> <th>FY 80</th> </tr> <tr> <th></th> <th>Est Date</th> <th>Est Date</th> <th>Est Date</th> <th>Est Date</th> <th>Est Date</th> </tr> </thead> <tbody> <tr> <td>Contract Award for Airframe (A/C)</td> <td>Feb 76</td> <td>Feb 77</td> <td>Feb 78</td> <td>2Q 79</td> <td>2Q 80</td> </tr> <tr> <td>Leadtime Airframe (A/C)</td> <td>18 Mo</td> <td>16 Mo</td> <td>14 Mo</td> <td>14 Mo</td> <td>14 Mo</td> </tr> <tr> <td>Contract Award for ALQ-133</td> <td>Oct 75</td> <td></td> <td>4Q 78</td> <td>1Q 79</td> <td></td> </tr> <tr> <td>Leadtime for ALQ-133</td> <td>15 Mo</td> <td></td> <td>20 Mo</td> <td>20 Mo</td> <td></td> </tr> <tr> <td>Production Rate for Aircraft</td> <td>(1/mo for 6, then 1 every other mo.)</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>ALQ-133 Delivery Starts</td> <td>Dec 76</td> <td></td> <td>3Q 80</td> <td>1Q 81</td> <td></td> </tr> <tr> <td>TOTAL Program Insl Completed</td> <td></td> <td></td> <td></td> <td></td> <td>4Q 81</td> </tr> </tbody> </table>					FY 76	FY 77	FY 78	FY 79	FY 80		Est Date	Est Date	Est Date	Est Date	Est Date	Contract Award for Airframe (A/C)	Feb 76	Feb 77	Feb 78	2Q 79	2Q 80	Leadtime Airframe (A/C)	18 Mo	16 Mo	14 Mo	14 Mo	14 Mo	Contract Award for ALQ-133	Oct 75		4Q 78	1Q 79		Leadtime for ALQ-133	15 Mo		20 Mo	20 Mo		Production Rate for Aircraft	(1/mo for 6, then 1 every other mo.)					ALQ-133 Delivery Starts	Dec 76		3Q 80	1Q 81		TOTAL Program Insl Completed					4Q 81
	FY 76	FY 77	FY 78	FY 79	FY 80																																																				
	Est Date	Est Date	Est Date	Est Date	Est Date																																																				
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Leadtime for ALQ-133	15 Mo		20 Mo	20 Mo																																																					
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ALQ-133 Delivery Starts	Dec 76		3Q 80	1Q 81																																																					
TOTAL Program Insl Completed					4Q 81																																																				
PROJECT FINANCIAL PLAN: (\$ Millions)																																																									
FY 75	FY 76	FY 77	FY 78	FY 79	FY 80	FY 81	TOTAL PROG																																																		
Qty	Qty	Qty	Qty	Qty	Qty	Qty	Cost																																																		
Cost	Cost	Cost	Cost	Cost	Cost	Cost	Cost																																																		
1 19.506	7 21.669	.110	4 10.753	6 26.438	6 21.461	4 8.975	2.375 28 111.287																																																		
1-83 - 1/22/79																																																									

SYSTEM: OV-1B PTP NO. 1-75-01-0306-H-I PIP DESCRIPTION: QUICK LOOK II

BASIS FOR COST ESTIMATE: (Millions)

	FY 75		FY 76		FY 77		FY 78		FY 79		FY 80	
	Qty	Cost	Qty	Cost	Qty	Cost	Qty	Cost	Qty	Cost	Qty	Cost
Conversion	1	3.002	7	7.589	4	3.459	6	5.457	6	6.164	4	4.468
GFE (Acft)		2.298		2.948		2.315		1.715		1.145		.051
Avionics		1.882		1.834		2.008		2.662		1.548		1.602
(A) Mission Equip (ALQ133)	7	7.525	5	4.588		.374	10	11.439	8	9.833		0
(B) Mission Equip(USQ61)	10	.240	6	.261		.017	12	.640	4	.230		0
(C) Grd Sta (USM-393/ALM-153/ALM-154)	4	2.448		0		.678	1	1.415	1	.974		0
Elec Facility Complex (MSA-34)	0	.290	2	.290		0	1	.167	1	.119		0
Maint Van	0	.081	5	.436	1	.065	4	.276	3	.222	3	.239
(D) Other Equip & Supt		2.030		3.723		1.837		2.667		1.226		2.615
TOTAL	1	19.506	7	21.669	4	10.753	6	26.438	6	21.461	4	8.975

	FY 81		TOTAL PROG		FY 81		TOTAL PROGRAM	
	Qty	Cost	Qty	Cost	Qty	Cost	Qty	Cost
Conversion		0	28	30.139		0	16	1.319
GFE (Acft)		0		10.472		.952		15.160
Avionics		1.423		12.959				
(A) Mission Equip (ALQ133)	0	0	30	33.759			28	111.287
(B) Mission Equip (USQ61)	0	0	32	1.388				
(C) Grd Sta (USM-393/ALM-153/ALM-154)		5.515	6	5.515				
ELE Facility Complex		.576	4	.576				
TOTAL								

1/ Total quantity indicates aircraft conversions.

BU 12-3

- (A) Re FY 75: includes 2 sets for training

(B) Re FY 75: includes 4 sets for training

(C) Re FY 75: includes 2 Ground Stations for training, less on (1) ALM-153

(D) Re FY 78: includes 1 Ground Station and One (1) ALM-153 for training

(E) Re all FY's: includes diagnostic tapes/training/data/general test equipment/ECCM Spt/STE/target to ceiling

METHOD OF IMPLEMENTATION: Installation will be accomplished by the contractor.

KIT DELIVERY SCHEDULE: Not Applicable.

INSTALLATION SCHEDULE:

	FY 76				FY 77				FY 78				FY 79				FY 80				FY 81				FY 82			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Inductions	1	2			1	2	2	3					2	1	2	1	2	1	2	1					1			
Completions									2	2	3	1	1	2	1	1	2	1	2	1	2	1	2	1				

BU 12-4

CLASSIFICATION		FY 80 BUDGET ESTIMATE																																											
REPORTS CONTROL SYMBOL	AIRCRAFT MODIFICATION	DATE																																											
DD-COMP (AR) 1092		1 JAN 1973																																											
APPROPRIATION/BUDGET ACTIVITY	MODIFICATION TITLE AND NO. 1-79-01-1183-A AN/APR-39(V)2 Radar Warning Receiver																																												
APA/2																																													
AIRCRAFT AFFECTED: RV-1D Airplane SSN AZ2100																																													
<p>DESCRIPTION/JUSTIFICATION: Type of Improvement - Operational Capability. The AN/APR-39(V)2 Radar Warning System provides information to the aircraft crew concerning the radar environment about the aircraft. The system is capable of effective operation in a dense signal environment consisting of threat, enemy non-threat and friendly emitters.</p> <p>DEVELOPMENT STATUS: Initiate Airframe Engineering 1Q FY 79 EMI/EMC - Flight Test 2Q FY 79 Production Decision/ECP Approval 3Q FY 79</p> <p>MILESTONES:</p> <table border="1"> <thead> <tr> <th></th> <th>FY 79</th> <th>FY 80</th> </tr> <tr> <th></th> <th>EST DATE</th> <th>EST DATE</th> </tr> </thead> <tbody> <tr> <td>Mod Kit Cont Awd</td> <td>3Q FY 79</td> <td>2Q FY 80</td> </tr> <tr> <td>Proj Lead Time</td> <td>10 months</td> <td></td> </tr> <tr> <td>Mod Kit Del Start</td> <td>3Q FY 80</td> <td></td> </tr> <tr> <td>Kit Installation Start</td> <td>1Q FY 81</td> <td>2Q FY 81</td> </tr> <tr> <td>AN/APR-39(V)2 Sys Cont Awd</td> <td>3Q FY 79</td> <td></td> </tr> <tr> <td>Prod Lead Time</td> <td>13 months</td> <td></td> </tr> <tr> <td>AN/APR-39(V)2 Sys Del Start</td> <td>4Q FY 80</td> <td></td> </tr> </tbody> </table> <p>PROJECT FINANCIAL PLAN:</p> <table border="1"> <thead> <tr> <th></th> <th>FY 79</th> <th>FY 80</th> </tr> <tr> <th></th> <th>QTY</th> <th>QTY</th> </tr> <tr> <th></th> <th>COST</th> <th>COST</th> </tr> </thead> <tbody> <tr> <td></td> <td>2.703</td> <td>.033</td> </tr> <tr> <td>TOTAL PROGRAM</td> <td></td> <td>2.736</td> </tr> </tbody> </table>					FY 79	FY 80		EST DATE	EST DATE	Mod Kit Cont Awd	3Q FY 79	2Q FY 80	Proj Lead Time	10 months		Mod Kit Del Start	3Q FY 80		Kit Installation Start	1Q FY 81	2Q FY 81	AN/APR-39(V)2 Sys Cont Awd	3Q FY 79		Prod Lead Time	13 months		AN/APR-39(V)2 Sys Del Start	4Q FY 80			FY 79	FY 80		QTY	QTY		COST	COST		2.703	.033	TOTAL PROGRAM		2.736
	FY 79	FY 80																																											
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TOTAL PROGRAM		2.736																																											

1-86 - 1/22/79
 CLASSIFICATION **BU 12-5**
 EXHIBIT P. 3a

DOSTS-C Form 1 Apr 78
 2075
 Edition of 1 May 76, may be used.

P-1 SHOPP LIST
 ITEM NO. 1 of 2

PAGE NO. 1 of 2

SYSTEM: RV-1D PIP No. 1-79-01-1183-A

DESCRIPTION: AN/APR-39V2 Radar Warning Receiver
Page 2 of 2

BASIS FOR COST ESTIMATE: (\$ in Millions)

1 JAN 1979

	FY 79 QTY COST	FY 80 QTY COST	FY 81 QTY COST	TOTAL PROGRAM QTY COST
Non Recurring				
Contractual	.946			.946
Govt Support Eng	.201			.201
Recurring				
AN/APR-39(V)2 Systems	36 .908			36 .908
AN/APM-415 Test Set, Processor	6 .368			6 .368
Memory Chip Programmers	6 .061			6 .061
Airframe Mod Kits	23 .219			23 .219
Production Incorporations		4 .033		4 .033
Installations (OMA)	2.703	(23) (.106)		(23) (.106)
		.033		2.736

METHOD OF IMPLEMENTATION: Airframe modification kits will be installed per end item ECP. Initial installation will occur 2Q FY 79 as part of the Phase 1 airframe engineering. Twenty-three aircraft will be modified by contract teams at user sites. Balance of installations will be made during the FY 80 RV-1 conversion program.

AIRFRAME MOD KIT DELIVERY SCHEDULE:

FY 80
1 2 3 4
10 13

FIELD INSTALLATION SCHEDULE:

FY 81
1 2 3 4
6 6 6 5

1-87 - 1/22/79

811 12-6

CLASSIFICATION		FY 80 BUDGET ESTIMATE																																																								
REPORTS CONTROL SYMBOL DD-COMP (AR) 1092	AIRCRAFT MODIFICATION	DATE	1 JAN 1979																																																							
APPROPRIATION/BUDGET ACTIVITY APA/2	MODIFICATION TITLE AND NO. Infrared (IR) Suppressor 1-78-01-0314-C																																																									
SSN AZ2100																																																										
AIRCRAFT AFFECTED: RV-1D																																																										
<p>DESCRIPTION/JUSTIFICATION: Type of Improvement - Operational Capability. The Hot Metal Plus Plume Suppressor is an engine nacelle/exhaust modification which reduces the infrared (IR) signature by using ram air for cooling exhaust duct wall surfaces (hot metal) and exhaust gases (plume dilution). The suppressor system consists of airframe mod kit provisions, including covers for use in unsuppressed configuration; louvered scarfed shroud suppressor assembly (B kit); and static covers for each engine. The IR suppressor system is required to complement the AN/ALQ-147() IR Jammer to defeat the growth threats, and will become mission essential in operations against growth threats.</p> <p>DEVELOPMENT STATUS: Engineering development contract was awarded Jun 75; ED prototype fabricated Apr 76. Contractor developmental testing and government effectiveness (IR measurements) testing is complete. Government endurance (RAM) testing was completed May 78. A TECOM Independent Evaluation Report was issued Jul 78. The ECP for the airframe provisions was approved Apr 77, and contract mod for incorporating provisions during the conversion program was awarded Feb 1978.</p>																																																										
<p>MILESTONES:</p> <table border="1"> <thead> <tr> <th></th> <th>FY 78 EST DATE</th> <th>FY 79 EST DATE</th> <th>FY 80 EST DATE</th> <th>FY 81 EST DATE</th> </tr> </thead> <tbody> <tr> <td>Pdn Contr Award (Leadtime):</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Airframe Provisions</td> <td>Feb 1978</td> <td>2Q 79 (5 mo)</td> <td>2Q 80 (5 mo)</td> <td></td> </tr> <tr> <td>Mod Kits</td> <td></td> <td>1Q 79 (9 mo)</td> <td>1Q 80 (5 mo)</td> <td>1Q 81 (9 mo)</td> </tr> <tr> <td>Suppressor B Kits</td> <td></td> <td></td> <td>2Q 80 (9 mo)</td> <td></td> </tr> <tr> <td>Delivery Starts:</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Mod Kits</td> <td></td> <td>4Q 79</td> <td>3Q 80</td> <td></td> </tr> <tr> <td>Suppressor B Kits</td> <td></td> <td>4Q 79</td> <td>1Q 81</td> <td>4Q 81</td> </tr> <tr> <td>Installation Starts:</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Mod Kits</td> <td></td> <td>4Q 80</td> <td></td> <td></td> </tr> <tr> <td>Suppressor B Kits</td> <td></td> <td>(Installed on a mission-required basis)</td> <td></td> <td></td> </tr> </tbody> </table>					FY 78 EST DATE	FY 79 EST DATE	FY 80 EST DATE	FY 81 EST DATE	Pdn Contr Award (Leadtime):					Airframe Provisions	Feb 1978	2Q 79 (5 mo)	2Q 80 (5 mo)		Mod Kits		1Q 79 (9 mo)	1Q 80 (5 mo)	1Q 81 (9 mo)	Suppressor B Kits			2Q 80 (9 mo)		Delivery Starts:					Mod Kits		4Q 79	3Q 80		Suppressor B Kits		4Q 79	1Q 81	4Q 81	Installation Starts:					Mod Kits		4Q 80			Suppressor B Kits		(Installed on a mission-required basis)		
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<p>PROJECT FINANCIAL PLAN: (Amounts in Millions of Dollars)</p> <table border="1"> <thead> <tr> <th>FY 77</th> <th>FY 78</th> <th>FY 79</th> <th>FY 80</th> <th>FY 81</th> <th>TOTAL PROGRAM</th> </tr> <tr> <th>QTY COST</th> <th>QTY COST</th> <th>QTY COST</th> <th>QTY COST</th> <th>QTY COST</th> <th>QTY COST</th> </tr> </thead> <tbody> <tr> <td>011</td> <td>468</td> <td>978</td> <td>1.787</td> <td>1.031</td> <td>4.270</td> </tr> </tbody> </table>				FY 77	FY 78	FY 79	FY 80	FY 81	TOTAL PROGRAM	QTY COST	QTY COST	QTY COST	QTY COST	QTY COST	QTY COST	011	468	978	1.787	1.031	4.270																																					
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<p>DD FORM 1 Apr 78 2075</p>		<p>1-88 - 1/22/79</p>																																																								
<p>1-88 - 1/22/79</p>		<p>CLASSIFICATION</p>																																																								
<p>1 of 2</p>		<p>EXHIBIT P-3a</p>																																																								

SYSTEM: RV-1D PIP No. 1-78-01-0314-C

DESCRIPTION: Infrared (IR) Suppressor

Page 2 of 2

BASIS FOR COST ESTIMATE: (Amounts in Millions of Dollars)

1 JAN 1979

	FY 77	FY 78	FY 79	FY 80	FY 81	TOTAL PROGRAM
	QTY COST	QTY COST	QTY COST	QTY COST	QTY COST	QTY COST
Non Recurring:						
Airframe Provisions	.011					.011
Mod Kits		.014				.014
Suppressor B Kits		.271				.271
Recurring:						
Airframe Provisions		.183	6 .170	4 .142		16 .495
Mod Kits				12 .503		12 .503
Suppressor B Kits			8 .808	11 1.137	9 1.031	28 2.976
Application:						
Mod Kits (OMA-2207)				6 (.103)	6 (.109)	12 (.212)
TOTAL APA	.011	.468	.978	1.782	1.031	4.270

METHOD OF IMPLEMENTATION: Installation of 16 airframe provisions will be incorporated during the RV-1D conversion program beginning with the number 13 delivery conversion RV-1D. The balance of the airframe modifications will be accomplished in the field by contract and/or depot contact teams. Installation time for field application of airframe provisions is estimated at 400 manhours. The suppressor B Kit is to be provided to the field and installed on a mission required basis. Installation time for the B Kit is estimated at 8 manhours by AVUM level personnel.

KIT DELIVERY SCHEDULE:

	FY 79	FY 80	FY 81	FY 82
	QTY	QTY	QTY	QTY
Mod Kits (Field Application)	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4
	6	6	6	6

Mod Kits (Field Application)

INSTALLATION SCHEDULE:

Mod Kits (Field Application)

6 6

CLASSIFICATION		FY 80 BUDGET ESTIMATE		DATE 1 JAN 1979	
REPORTS CONTROL SYMBOL DD-COMP (AR) 1082		AIRCRAFT MODIFICATION			
APPROPRIATION/BUDGET ACTIVITY		MODIFICATION TITLE AND NO. 1-77-01-1181-B			
APA/2 SSN AZ2100		AN/APR-44(V) () Continuous Wave Radar Warning Receiver			
AIRCRAFT AFFECTED: RV-1D					
DESCRIPTION/JUSTIFICATION: Type of Improvement - Operational Capability. The AN/APR-44(V) () CW RWR is to be installed on the RV-1D aircraft to provide detection and crew warning of emission from hostile air defense radar systems.					
DEVELOPMENT STATUS: Aircraft Integration Design Initiated - Jun 78 Prototype Complete - 2Q 79 Effectiveness Testing Complete - 2Q 79					
MILESTONES:					
Contract Award, ECP		FY 77	FY 78	FY 79	FY 80
ECP Approval			Jun 78		
Contract Awd, Airframe Kits			1Q 80		
Production Lead Time			1Q 80	1Q 80	
Kit Delivery Starts			2Q 80	2Q 80	4 months
APR-44 Cont Awd			3Q 79	3Q 79	6 months
Production Lead Time			1Q 79	1Q 80	6 months
APR-44 Del Starts			8 months	1Q 80	3Q 80
Project FINANCIAL PLAN (Amounts in Millions of Dollars)					
FY 77	FY 78	FY 79	FY 80	TOTAL PROGRAM	
QTY COST	QTY COST	QTY COST	QTY COST	QTY	COST
.160	.282	.104	.398		.944

1-90 - 1/22/79

AD-A065 299

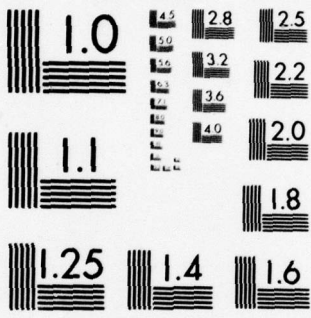
DEPUTY CHIEF OF STAFF FOR RESEARCH DEVELOPMENT AND AC--ETC F/6 5/1
DEPARTMENT OF THE ARMY JUSTIFICATION OF ESTIMATES FOR FISCAL YE--ETC(U)
JAN 79

UNCLASSIFIED

NL

2 OF 5
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MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS-1963-A

SYSTEM: RV-1D PIP No. 1-77-01-1181-B

BASIS FOR COST ESTIMATE: (Amounts in Millions of Dollars)

DESCRIPTION: CW Radar Warning Receiver

1 JAN 1979

	FY 77	FY 78	FY 79	FY 80	TOTAL PROGRAM
	QTY COST	QTY COST	QTY COST	QTY COST	QTY COST
Phase I Engrg/Test	.160	.210		.028	.398
Airframe Mod Kits			23 .048		23 .048
Production Mod Parts				4 .010	4 .010
APR-44 Systems	8 .055		6 .039	14 .161	28 .255
R2098 Receivers	4 .012		2 .003	14 .080	14 .080
STE				3 .007	9 .022
Warranty			.011	.062	.073
Non-Recurring, Cont		.005	.003	.023	.028
Engrg Support, CERCOM				.027	.030
Application (OMA-2207)				23 (.039)	23 (.039)
TOTAL APA	.160	.282	.104	.398	.944

METHOD OF IMPLEMENTATION: The prototype installation on a fielded aircraft will be completed by the contractor, 23 aircraft will be retrofitted by depot level contract team personnel in the field, and the balance will be modified in conversion.

DELIVERY SCHEDULE:

	FY 79	FY 80	FY 81
	1 2 3 4	1 2 3 4	1 2 3 4
		10 13	

Airframe Mod Kits

INSTALLATION SCHEDULE:

	1 2 3 4	1 2 3 4	1 2 3 4
		10 13	

Mod Kit Field Installation

BU 12-10

CLASSIFICATION		FY 80 BUDGET ESTIMATE	
REPORTS CONTROL SYMBOL DD-COMP (AR) 1092	AIRCRAFT MODIFICATION	DATE 1 JAN 1979	
APPROPRIATION/BUDGET ACTIVITY		MODIFICATION TITLE AND NO. XM-130 General Purpose Dispenser 1-79-01-0884-A	
AFPA/2			
AIRCRAFT AFFECTED: RV-1D, SSN AZ2100			
DESCRIPTION/JUSTIFICATION: Type of Improvement-Operational Capability. The XM-130 dispenser system provides effective countermeasures against radar, AAA and infrared missile threats. The system incorporates appropriate design features of existing decoy dispensing systems.			
DEVELOPMENT STATUS: DEVA IRP - Aug 1977 1st Production Award Sep 1977 for CH-47 aircraft 1st Phase Engr Award - 1Q 79			
MILESTONES:		FY 79	FY 80
ECF Approval		3Q 79	
Contract Award A Kits/ Prod Mod Kits			1Q 80
Leadtime			6 months
Kit Delivery Start			2Q 80
Kit Installation Start			3Q 80
XM-130 Contract Award		2Q 79	1Q 80
Prod Leadtime		6 months	6 months
XM-130 Delivery Start		4Q 79	3Q 80
PROJECT FINANCIAL PLAN (Amounts in Millions of Dollars):			
FY 79		FY 80	TOTAL PROGRAM
QTY	COST	QTY	COST
	.310		.208
			.518

DRSTS-C Form
1 Apr 78

2075 Edition of 1 May 76, may be used.

P-1 SHOPP LIST
ITEM NO.

1-92 - 1/22/79

CLASSIFICATION BU 12-1/...

EXHIBIT P. 3a

BASIS FOR COST ESTIMATE (Amounts in Millions of Dollars):

	FY 79	FY 80	FY 81	TOTAL PROGRAM
	QTY	QTY	QTY	QTY
	COST	COST	COST	COST
Non Recurring				
Dispenser XM-130	20	12	32	32
STE-XM91/92	.139	.103	.241	.149
Airframe Mod Kits	.033	.024	.057	.057
Production Mod Sets		23	23	23
Kit Application		4	4	4
APA		4		4
OMA		(10)	(13)	(23)
Total	.310	(.030)	(.040)	(.070)
		.208	(.040)	.518

METHOD OF IMPLEMENTATION: The XM-130 will be installed per end item ECP. The initial installation will occur on 1 aircraft as part of the ECP/MWO effort during 2Q FY 79. Twenty three aircraft will be modified at user location by either contract or depot contact teams. The balance of the RV-LD aircraft will be provisioned during the conversion program. Application hours of 80 per Kit is estimated.

KIT DELIVERY SCHEDULE:

FY 80	FY 81
1 2 3 4	1 2 3 4
8 8 7	

INSTALLATION SCHEDULE:

Field Installations	5 5 5 3
---------------------	---------

FY 80 BUDGET ESTIMATE

CLASSIFICATION		REPORTS CONTROL SYMBOL DD-COMP (AR) 1092		AIRCRAFT MODIFICATION		DATE	
APPROPRIATION/BUDGET ACTIVITY		SSN: A22100		MODIFICATION TITLE AND NO. Fibre Optics Indicators -		VIDS RFP 1-76-01-0303B	
AIRCRAFT AFFECTED: RV-1D							
<p><u>DESCRIPTION/JUSTIFICATION:</u> Type of Improvement - Reliability and Maintainability. This improvement will retro-fit RV-1D aircraft with a fibre optics Vertical Instrumentation Display System (VIDS). The replacement system will be solid-state with no moving parts. The current system, which is to be replaced, had demonstrated unacceptable reliability and costs.</p> <p><u>DEVELOPMENT STATUS:</u> First article VIDS units have completed environmental, reliability and electromagnetic interference testing in laboratories, and one system has undergone 350 hours of flight testing. No deficiencies or shortcomings have resulted from tests of the VIDS. An additional 450 hours of flight testing is scheduled and funded.</p>							
<u>MILESTONES:</u>							
FECF Approval		FY 77	FY 78	FY 79	FY 80		
Contract Award - RV-1D Kits			Mar 78				
Contract Award - VIDS			Aug 78	2Q 79			
Contract Award - Unit Test Sets		Sep 77		1Q 79			
Contract Award - Flight Line Test		Sep 77					
Kit Delivery Starts		Jul 78					
Kit Installation Starts			4Q 79	2Q 80		2Q 80	
Kit Installation Complete						4Q 80	
PROJECT FINANCIAL PLAN: (\$ MILLIONS)		FY 77	FY 78	FY 79	FY 80	TOTAL	
PEMA Principal Installation (O&MA)		.689	.074	.357	.016	1.136	

1-94 - 1/22/79

1 JAN 1979

SYSTEM: RV-ID PIP NO: 1-76-01-0303B PIP DESCRIPTION: Fibre Optics Indicators - VIDS

BASIS FOR COST ESTIMATE:

	FY 77	FY 78	FY 79	FY 80	TOTAL PROGRAM
	Qty	Qty	Qty	Qty	Qty
	Amt	Amt	Amt	Amt	Amt
VIDS	17	.504	11	.324	28
Kits			11	.033	28
Test Sets	7	.185			7
Installation (O&MA)				24 (.048)	24
Production Incorporation				4 .016	4
TOTAL		.689	.074	.357	.016
					1.136

METHOD OF IMPLEMENTATION: Modification will be accomplished at Direct Support Maintenance via MOW.
Modification will be accomplished by the prime contractor during conversion of 4 aircraft.

KIT DELIVERY SCHEDULE:

FY 79	FY 80
1 2 3 4	1 2 3 4
17	11

INSTALLATION SCHEDULE:

FY 79	FY 80
1 2 3 4	1 2 3 4
17	7

BU 12-14

1-95 - 1/22/79

CLASSIFICATION		FY 80 BUDGET ESTIMATE		DATE 1 JAN 1979																									
REPORTS CONTROL SYMBOL DD-COMP (AR) 1092		AIRCRAFT MODIFICATION																											
APPROPRIATION/BUDGET ACTIVITY APA/2		SSN: AZ2100		MODIFICATION TITLE AND NO. KY-58/TSEC Voice Security PIP 1-78-01-0865-D																									
<p>AIRCRAFT AFFECTED: RV-1</p> <p>DESCRIPTION/JUSTIFICATION: Type of Improvement - Operational Capability. The KY-58 (Vinson) Combat Net Security is to replace the KY-28/TSEC equipment. The KY-58/TSEC is not compatible with the KY-28/TSEC. The KY-58/TSEC remote control unit Z-AHP is larger than the KY-28/TSEC RCU, and therefore, it requires a MM0/Kit to reconfigure the console. Black boxes will be procured with NSA funding and will be distributed by the same procedure currently utilized for the KY-28/TSEC. Non-recurring and ECP funding is contained in OV-1 PIP 1-78-01-0865.</p> <p>DEVELOPMENT STATUS: NSA has developed the KY-58/TSEC System.</p> <p>MILESTONES FOR AIRFRAME:</p> <table border="0"> <tr> <td></td> <td>FY 78</td> <td>FY 79</td> <td>FY 80</td> </tr> <tr> <td>Contract Award for ECP</td> <td>4Q 78</td> <td></td> <td></td> </tr> <tr> <td>ECP Approval</td> <td>3Q 78</td> <td></td> <td></td> </tr> <tr> <td>Contract Award for Kits</td> <td></td> <td>3Q 79</td> <td>1Q 80</td> </tr> <tr> <td>Kit Installation Start</td> <td></td> <td></td> <td>3Q 80</td> </tr> <tr> <td>Kit Installation Completed</td> <td></td> <td></td> <td>4Q 81</td> </tr> </table>							FY 78	FY 79	FY 80	Contract Award for ECP	4Q 78			ECP Approval	3Q 78			Contract Award for Kits		3Q 79	1Q 80	Kit Installation Start			3Q 80	Kit Installation Completed			4Q 81
	FY 78	FY 79	FY 80																										
Contract Award for ECP	4Q 78																												
ECP Approval	3Q 78																												
Contract Award for Kits		3Q 79	1Q 80																										
Kit Installation Start			3Q 80																										
Kit Installation Completed			4Q 81																										

POP DESCRIPTION: KY-58/TSEC Voice Security

PROJECT FINANCIAL PLAN: (Dollars in Millions)

FY 79	<u>.005</u>
FY 80	<u>.003</u>

BASIS FOR COST ESTIMATE:

	FY 79		FY 80		FY 81		TOTAL	
	Qty	Amt	Qty	Amt	Qty	Amt	Qty	Amt
Kits								
Installation	18	.005	10	.003	28	.008	28	.008
TOTAL PENA		.005	18	.026	10	.015	28	.041
				.003		.008		.008

178
12-16

AIRCRAFT MODIFICATIONS				EXHIBIT P-3		
APPROPRIATION APA P1200 FY 80 BUDGET ESTIMATE SSN AA 0550		DATE 1 JAN 1979		FY 80		
AIRCRAFT MODEL 1	MODIFICATION NUMBER 2	DESCRIPTION OF MODIFICATION 3	NUMBER AIRCRAFT 4	UNIT COST 5	TOTAL COST (Thousands) 6	
U-21	1-77-01-0899	Weather Radar* Non recurring GFE Airframe kits	99		81 1,130 272	
*Consolidated P-3a				GRAND TOTAL	1,483	
		1-98 - 1/22/79			BT	14 - 1

CLASSIFICATION		FY 80 Budget Estimate																																														
REPORTS CONTROL SYMBOL DD-COMP (AR) 1092	AIRCRAFT MODIFICATION	DATE	1 JAN 1979																																													
APPROPRIATION/BUDGET ACTIVITY APA/2	MODIFICATION TITLE AND NO. Weather Radar AN/APN-215 PIP # 1-77-01-0899, SSN AA0550(U-21)																																															
<p><u>AIRCRAFT AFFECTED:</u> U-21A/D/G</p> <p><u>DESCRIPTION/JUSTIFICATION:</u> Type of Improvement - Operational Capability. Since the existing Weather Radar unit (APN-158) is not procureable from Collins Radio, it has been very difficult to provide spare parts. Cannibalization has started and unless a replacement unit with adequate support is provided, the aircraft will not be able to perform missions in a safe manner under all weather conditions.</p> <p><u>DEVELOPMENT STATUS:</u> DAVAA-E started in May 77 on a two step formal advertising (off-the-shelf) procurement of the AN/APN-215 with a five year warranty. 3rd Qtr FY 79 is the target date for a production GFE award with an option award in the 1st Qtr FY 80. Production rate will be approximately 9 per month commencing within 6-8 months after contract award.</p> <p><u>MILESTONES FOR AIRFRAME:</u></p> <table border="1"> <thead> <tr> <th></th> <th>FY 79</th> <th>FY 80</th> <th>FY 81</th> <th>FY 82</th> </tr> </thead> <tbody> <tr> <td>Contract Award for ECP</td> <td>1Q 79</td> <td>(3Q 80)</td> <td></td> <td></td> </tr> <tr> <td>ECP Approval</td> <td>2Q 80</td> <td>(3Q 80)</td> <td></td> <td></td> </tr> <tr> <td>Contract Award (Kits)</td> <td></td> <td>4Q 80, (1Q 82)</td> <td></td> <td></td> </tr> <tr> <td>Production Rate (Kits)</td> <td></td> <td>9 Months</td> <td></td> <td></td> </tr> <tr> <td>Leactime(Kits)</td> <td></td> <td>6 Months</td> <td></td> <td></td> </tr> <tr> <td>1st Kit Delivery</td> <td></td> <td>2Q 81, (3Q 82)</td> <td>3Q 81</td> <td>(3Q 82)</td> </tr> <tr> <td>Installation Starts</td> <td></td> <td></td> <td></td> <td>2Q 82, (4Q 82)</td> </tr> <tr> <td>Installation Completed</td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table> <p>Milestones in parentheses will not occur if:</p> <ul style="list-style-type: none"> *The RU-21A, RU-21D & JU-21A are similar to prototype aircraft U-21A and *The RU-21H is similar to prototype aircraft U-21G and *The RU-21C is similar to prototype aircraft RU-21B. 					FY 79	FY 80	FY 81	FY 82	Contract Award for ECP	1Q 79	(3Q 80)			ECP Approval	2Q 80	(3Q 80)			Contract Award (Kits)		4Q 80, (1Q 82)			Production Rate (Kits)		9 Months			Leactime(Kits)		6 Months			1st Kit Delivery		2Q 81, (3Q 82)	3Q 81	(3Q 82)	Installation Starts				2Q 82, (4Q 82)	Installation Completed				
	FY 79	FY 80	FY 81	FY 82																																												
Contract Award for ECP	1Q 79	(3Q 80)																																														
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Contract Award (Kits)		4Q 80, (1Q 82)																																														
Production Rate (Kits)		9 Months																																														
Leactime(Kits)		6 Months																																														
1st Kit Delivery		2Q 81, (3Q 82)	3Q 81	(3Q 82)																																												
Installation Starts				2Q 82, (4Q 82)																																												
Installation Completed																																																
<p>DRSTS-C Form 1 Apr 78 2075 Edition of 1 May 76, may be used.</p> <p>P-1 SHOPP LIST ITEM NO. 1 of 3</p> <p>1- 99 - 1/22/79</p> <p>CLASSIFICATION 14-2 EXHIBIT P-3a</p>																																																

SYSTEM: U-21 PIR No. 1-77-01-0899

1 JAN 1979 Page 2 of 3

Project Financial Plan: (Dollars in Millions)

FY 79 FY 80 TOTAL PROGRAM
 .452 1.483 1.935

Basis For Cost Estimates: (Dollars in Millions)

	FY 79		FY 80		TOTALS	
	Qty	Amount	Qty	Amount	Qty	Amount
Non-Recur (In house)						
U-21		.107		.030		.137
Subtotal						
Non-Recur (Contractor)						
U-21		.257		.051		.308
Subtotal						
GPE (Aircraft)						
U-21	4	.050	98	.907	102	.957
Subtotals						
GPE (Plant)						
U-21	-	-	16	.223	16	.223
Subtotal						
GPE (1st Article)						
U-21	3	.038	-	-	3	.038
Subtotal						
Kits						
U-21	-	-	98	.272	98	.272
Subtotal						
U-21 Totals		.452		1.483		1.935

1-100- 1/22/79

BU 14-3

SYSTEM: U-21 PIP NO: 1-77-01-0899

1 JAN 1979

BASIC FOR COST ESTIMATE: (Amounts in millions of dollars)

	FY 78 S		FY 79		FY 80		FY 81		FY 82		TOTALS	
	Qty	Amt	Qty	Amt	Qty	Amt	Qty	Amt	Qty	Amt	Qty	Amt
Installation (OMA)												
U-21							(54)	(.182)	(44)	(.156)	(98)	(.338)
TOTALS												
Engineering (OMA)												
U-21		(.132)		(.299)		(.085)		(.013)		(.014)		(.543)
TOTALS												

METHOD OF IMPLEMENTATION: Application of kits can be by depots, contract teams, modification lines, and field units at direct support level.

	FY 81 OTRS				FY 82 OTRS				TOTALS	
	1	2	3	4	1	2	3	4		
Kit Delivery Schedule										
U-21		27	27	27						98
TOTALS										
Kit Install Schedule										
U-21	-	-	27	27		17	-	-		98
TOTALS										

1-101 - 1/22/79

80 14-4

FY 80 BUDGET ESTIMATE

AIRCRAFT MODIFICATIONS				EXHIBIT P-3		
APPROPRIATION		SSN AA0150		FY	DATE	Page 1 of 2
APA/2				80	1 JAN 1978	
AIRCRAFT MODEL	MODIFICATION NUMBER	DESCRIPTION OF MODIFICATION	NUMBER AIRCRAFT	UNIT COST	TOTAL COST	
					(Thousands)	
1. AH-1	1-77-01-0479	<u>Airframe</u> AH-1G/S Conversion/Modernization Nonrecurring Recurring (kits + integration)	160	N/A 1,121,381	14,232 179,421	
2. AH-1	1-77-01-0861	XM-130 Dispenser	224	2,728	611	
3. AH-1	1-79-01-0976	Radar Jammer ALQ-136	162	2,456	398	
4. AH-1	1-80-01-0984	Laser Warning Receiver (N/R)	N/A	N/A	510	
		TOTAL AIRFRAME			195,172	
5. AH-1	1-77-01-0479	<u>Engine</u> AH-1G/S Conversion Modernization T53-L703 Engine Rmf.	180	164,567	29,622	
6. AH-1	1-77-01-0479	<u>Avionics</u> AH-1G/S Conversion Modernization	(Various)	N/A	33,205	
7. AH-1						
8. AH-1	1-77-01-0861	XM-130 Dispenser STE/NR	141 N/A	8,248 N/A	1,163 196	
9. AH-1	1-79-01-0976	Radar Jammer ALQ-136 Nonrecurring/STE GFE	107	N/A 59,935	1,549 6,413	
10. AH-1	1-80-01-0985*	NOE Communications (N/R)			296	
		1-103 - 1/22/79			15-1	

Previous editions are obsolete.

SAVING Form
1 Apr 76
2077

AIRCRAFT MODIFICATIONS					EXHIBIT P-3		
APPROPRIATION		SSN AA0150		DATE			
APA/2				1 JAN 1979 Page 2 of 2			
FY		80		UNIT COST			
AIRCRAFT MODEL		MODIFICATION NUMBER		NUMBER AIRCRAFT			
1		2		4			
DESCRIPTION OF MODIFICATION		3			5		
11. AH-1		1-78-01-0408**		11,504			
12. AH-1		1-78-01-0856**		N/A			
				18,830			
				3,083			
				1,690			
				4,011			
				51,606			
				276,400			

FY 80 BUDGET ESTIMATE

CLASSIFICATION		AIRCRAFT MODIFICATION		DATE 1 JAN 1979																																																												
REPORTS CONTROL SYMBOL DD-COMP (AR) 1092																																																																
APPROPRIATION/BUDGET ACTIVITY APA/2 SSN AA0150		MODIFICATION TITLE AND NO. 1-77-01-0479 SSN AA0150																																																														
		AH-1G/S Conversion-Modernization																																																														
<p><u>Aircraft Affected - AH-1G</u></p> <p><u>Description/Justification:</u> Type of Improvement - Operational Capability.</p> <p>Requirement for a Point Target Weapon System (AH-1S) with Fire Control and Stores Management/Remote Fuzing was approved April 1976. Coupled with changes in the Attack Helicopter AAO, additional AH-1S aircraft are required, to be obtained through modification of remaining AH-1G aircraft. This modification includes integration of the TOW Missile System and airframe structural/power train beef-up, with remanufacture of T53-L11 engines to the T53-L-703 configuration, plus incorporation of the cockpit/canopy, hydraulic pump, rod end bearing, wing bushings and Standard Lightweight Avionics Equipment (SLAE) radios (providing compatibility with the new AH-1S production configuration); and modernization improvements including main rotor hub, particle separator, second generator/alternator, hot metal plus plume (HMP) infrared (IR) suppressor, infrared (IR) jammer, doppler navigation, APX-100 transponder, fire control, stores management/remote fuzing, universal turret, telescopic sight unit (TSU) heater blower, ranging airborne laser tracker, and complete airspeed indicating system.</p> <p>Development Status: Basic AH-1G to AH-1S conversion was developed and tested under PIPs 420 (AH-1Q ICAP) and 410/412 (AH-1S ICAM). The turret, fire control and stores management efforts are presently in development, to be ready for concurrent incorporation. Remaining items only require engineering for integration and application to the AH-1G/S aircraft.</p> <table border="1"> <tr> <td>Milestones:</td> <td>FY 77</td> <td>FY 78</td> <td>FY 79</td> <td>FY 80</td> <td>FY 81</td> </tr> <tr> <td>Engineering contract award</td> <td>Jul 77</td> <td>Oct 77</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Production contract award</td> <td></td> <td>May 78</td> <td>1Q FY 79</td> <td>1Q FY 80</td> <td>1Q FY 81</td> </tr> <tr> <td>Production leadtime - 17 mo. (basic aircraft; other items vary)</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Aircraft induction starts</td> <td></td> <td>2Q FY 79</td> <td>4Q FY 79</td> <td>4Q FY 80</td> <td>4Q FY 81</td> </tr> <tr> <td>Kit delivery starts</td> <td></td> <td>1Q FY 80</td> <td>3Q FY 80</td> <td>3Q FY 81</td> <td>3Q FY 82</td> </tr> <tr> <td>Kit installation aircraft delivery starts</td> <td></td> <td>1Q FY 80</td> <td>3Q FY 80</td> <td>3Q FY 81</td> <td>3Q FY 82</td> </tr> <tr> <td>Aircraft induction completed</td> <td></td> <td>4Q FY 79</td> <td>4Q FY 80</td> <td>4Q FY 81</td> <td>1Q FY 82</td> </tr> <tr> <td>Kit delivery completed</td> <td></td> <td>2Q FY 80</td> <td>2Q FY 81</td> <td>2Q FY 82</td> <td>4Q FY 82</td> </tr> <tr> <td>Kit installation aircraft delivery completed</td> <td></td> <td>2Q FY 80</td> <td>2Q FY 81</td> <td>2Q FY 82</td> <td>4Q FY 82</td> </tr> </table>					Milestones:	FY 77	FY 78	FY 79	FY 80	FY 81	Engineering contract award	Jul 77	Oct 77				Production contract award		May 78	1Q FY 79	1Q FY 80	1Q FY 81	Production leadtime - 17 mo. (basic aircraft; other items vary)						Aircraft induction starts		2Q FY 79	4Q FY 79	4Q FY 80	4Q FY 81	Kit delivery starts		1Q FY 80	3Q FY 80	3Q FY 81	3Q FY 82	Kit installation aircraft delivery starts		1Q FY 80	3Q FY 80	3Q FY 81	3Q FY 82	Aircraft induction completed		4Q FY 79	4Q FY 80	4Q FY 81	1Q FY 82	Kit delivery completed		2Q FY 80	2Q FY 81	2Q FY 82	4Q FY 82	Kit installation aircraft delivery completed		2Q FY 80	2Q FY 81	2Q FY 82	4Q FY 82
Milestones:	FY 77	FY 78	FY 79	FY 80	FY 81																																																											
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Kit delivery starts		1Q FY 80	3Q FY 80	3Q FY 81	3Q FY 82																																																											
Kit installation aircraft delivery starts		1Q FY 80	3Q FY 80	3Q FY 81	3Q FY 82																																																											
Aircraft induction completed		4Q FY 79	4Q FY 80	4Q FY 81	1Q FY 82																																																											
Kit delivery completed		2Q FY 80	2Q FY 81	2Q FY 82	4Q FY 82																																																											
Kit installation aircraft delivery completed		2Q FY 80	2Q FY 81	2Q FY 82	4Q FY 82																																																											

1-105 - 1/22/79

1 JAN 1979

MODIFICATION TITLE: 1-77-01-0479 SSN AA0150
AH-1G/S CONVERSION/MODERNIZATION

BASIS FOR COST ESTIMATE: (Amounts in Millions of Dollars)

	FY 77		FY 78		FY 79		FY 80		FY 81		Total	
	Qty	Cost	Qty	Cost	Qty	Cost	Qty	Cost	Qty	Cost	Qty	Cost
NON-RECURRING:												
Prod Engr/Tooling/Data/Pubs(Basic)		2.707		20.345		2.425		1.993		.711		28.181
Prod Engr/Tooling/Data/Pubs(GFE)				4.155		4.825		3.095		.901		12.976
Competitive Source Qual-Subsystems				-		-		4.259		-		4.259
Training Hardware				2.073		2.106		4.885		1.703		10.767
Total Nonrecurring		2.707		26.573		9.356		14.232		3.315		56.183
RECURRING:												
<u>Air Vehicle</u>												
Airframe Conversion Kit	11		11	2.039	137	22.705	160	30.518	64	12.577	372	67.839
Integration	11		11	4.651	137	23.015	160	30.800	64	12.947	372	71.413
<u>STE/PGSE/Trainer Mod</u>												
T53-L703 Engine Manufacture	42		42	4.630	195	26.618	180	26.255	29	4.335	446	18.724
Fuel Controls/Governors	70		70	.921	180	2.420	192	2.963	29	.463	471	6.767
Particle Separator					237	.498	180	.404	29	.008	446	.910
<u>Weapons/Armament/Fire Control</u>												
TOW Missile System	11		11	2.168	137	30.140	160	38.720	64	16.277	372	87.305
Laser Rangefinder	11		11	.385	137	5.439	160	6.283	64	2.590	372	14.697
TSU Launcher Anti-Ice				-	148	.020	160	.036	64	.007	372	.063
STE/PGSE/IES				-		5.426		8.772		6.627		20.825

BU 15-4

1 JAN 1979

MODIFICATION TITLE: 1-77-01-0479 SSN AA0150
AH-1G/S CONVERSION/MODERNIZATION

	FY 77		FY 78		FY 79		FY 80		FY 81		TOTAL	
	Qty	Cost	Qty	Cost	Qty	Cost	Qty	Cost	Qty	Cost	Qty	Cost
Helmet Sight Subsystem	11	.170	154	2.626	180	3.663	72	1.573	417	8.032		
Universal Turret	11	.213	137	10.138	165	14.850	59	5.047	372	30.248		
Guns, Feeders	11	.850	177	3.782	200	4.627	80	1.998	468	11.257		
Rocket Mgt Subsystem	11	.350	137	3.425	165	4.501	59	1.705	372	9.981		
10KVA Alternator	11	.175	137	2.055	165	2.701	59	1.023	372	5.954		
STE/PGSE		-		1.693		2.305		1.478		5.476		
Fire Control Computer		.385	137	4.110	165	6.600	59	2.046	372	13.141		
Heads Up Display		.410	137	4.384	165	6.930	59	2.183	372	13.907		
Low Airspeed System		.310	137	2.740	165	4.455	59	1.364	372	8.869		
STE/PGSE		-		1.900		1.487		1.167		4.554		
Avionics												
ALT AAS-32			98	6.566	210	14.774	64	4.608	372			
Float			20	1.340	30	2.110			50			
Doppler ASN-128			148	3.670	160	4.197	64	1.728	372			
Float			20	.496	30	.786			50			
APX-100 Transponder	50	.358	98	1.155	160	2.057	64	.873	372			
Float		-	20	.236	30	.260			50			
SLAE Pkg (ARC-114/115/164)		-	148	2.037	160	2.433	64	1.021	372			
Float		-	20	.275	30	.452			50			
Cockpit Instrumentation	50	.342	98	2.323	160	4.179	64	1.753	372			
Float		-	20	.474	30	.784			50			
STE/PGSE		-		.384		1.173		.384				

BU 13-5

1 JAN 1979

MODIFICATION TITLE: 1-77-01-0479 SSN AA0150
AH-1G/S CONVERSION/MODERNIZATION

	FY 77	FY 78	FY 79	FY 80	FY 81	Total
	Qty	Cost	Qty	Cost	Qty	Cost
Government Engineering Support						
TSARCOM/AVRADCOM		NSP	.345	.435	.387	1.167
MIRCOM/MIRCOM/MIRADCOM		NSP	.745	1.220	1.090	3.055
ARRCOM/ARADCOM		NSP	.245	.720	.240	1.205
CERCOM/ERADCOM/LABS		NSP	1.043	1.503	.395	2.941
ASE (Non-add; separate P-3a's)						
HM+P Suppressor		.050	.999	3.083	.794	4.896
IR Jammer ALQ-144		(.050)	3.536	6.164	1.256	10.956
			(4.535)	(9.247)	(2.020)	(15.852)
TOTAL RECURRING	11	18.357	137 175.418	160 242.248	64 97.073	372 553.096
TOTAL AH-1G/S MODERNIZATION	2.707	44.930	184.774	256.480	100.388	589.279

MODIFICATION TITLE: 1-77-01-0479 SSN AA0150
 AH-1G/S CONVERSION/MODERNIZATION

1 JAN 15/73

METHOD OF IMPLEMENTATION: Complete modification (concurrent installation of all items) in conjunction with aircraft overhaul -- separate maintenance and repair (MAR) program established.

INSTALLATION/DELIVERY SCHEDULE:

	FY 79			FY 80			FY 81			FY 82		
	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q
Aircraft Induction			5	12	24	39	38	45	37	45	38	45
Aircraft Output				5	8	23	31	37	38	45	45	14

BU 15-7

CLASSIFICATION		FY 80 BUDGET ESTIMATE		DATE 1 JAN 1979																																																																									
REPORTS CONTROL SYMBOL DD-COMP (AR) 1092		AIRCRAFT MODIFICATION																																																																											
APPROPRIATION/BUDGET ACTIVITY APA/2 SSN AA0150		MODIFICATION TITLE AND NO. XM-130 General Purpose Dispenser 1-77-01-0861																																																																											
<p>AIRCRAFT AFFECTED: AH-1S</p> <p>DESCRIPTION/JUSTIFICATION: Type of Improvement - Operational Capability. The XM-130 system provides chaff countermeasure for the AH-1 with a manual operation capability for visual and/or radar warning receiver threat detection. If advances in the IR threat capability require it, the XM-130 installation with flares and the ALQ-156 missile detector may be a viable consideration for a future IR countermeasure.</p> <p>DEVELOPMENT STATUS: DT/OT II - Sep 77 ECP Approval 3Q 79 DEVA IPR - Aug 77 1st Prod Awd Feb 78</p> <p>MILESTONES:</p> <table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th></th> <th style="text-align: center;">FY 78 EST DATE</th> <th style="text-align: center;">FY 79 EST DATE</th> <th style="text-align: center;">FY 80 EST DATE</th> <th style="text-align: center;">FY 81 EST DATE</th> <th style="text-align: center;">FY 82 EST DATE</th> </tr> </thead> <tbody> <tr> <td>Mod Kit Contract Award</td> <td style="text-align: center;">3Q FY 79</td> <td style="text-align: center;">3Q FY 79</td> <td style="text-align: center;">2Q FY 80</td> <td style="text-align: center;">2Q FY 81</td> <td style="text-align: center;">2Q FY 82</td> </tr> <tr> <td>ECP Approval</td> <td style="text-align: center;">3Q FY 79</td> <td style="text-align: center;">3Q FY 79</td> <td style="text-align: center;">6 months</td> <td style="text-align: center;">6 months</td> <td style="text-align: center;">6 months</td> </tr> <tr> <td>Prod Lead Time</td> <td style="text-align: center;">10 months</td> <td style="text-align: center;">10 months</td> <td style="text-align: center;">1Q FY 81</td> <td style="text-align: center;">1Q FY 82</td> <td style="text-align: center;">1Q FY 83</td> </tr> <tr> <td>Mod Kit Delivery Start</td> <td style="text-align: center;">3Q FY 80</td> <td style="text-align: center;">3Q FY 80</td> <td style="text-align: center;">1Q FY 81</td> <td style="text-align: center;">1Q FY 82</td> <td style="text-align: center;">1Q FY 83</td> </tr> <tr> <td>Kit Installation Start</td> <td style="text-align: center;">3Q FY 80</td> <td style="text-align: center;">3Q FY 80</td> <td style="text-align: center;">1Q FY 81</td> <td style="text-align: center;">1Q FY 82</td> <td style="text-align: center;">1Q FY 83</td> </tr> <tr> <td>CPE Contract Award</td> <td style="text-align: center;">Feb 78</td> <td style="text-align: center;">6 months</td> <td style="text-align: center;">1Q FY 80</td> <td style="text-align: center;">1Q FY 81</td> <td style="text-align: center;">1Q FY 82</td> </tr> <tr> <td>Production Lead Time</td> <td style="text-align: center;">6 months</td> <td style="text-align: center;">6 months</td> <td style="text-align: center;">6 months</td> <td style="text-align: center;">6 months</td> <td style="text-align: center;">6 months</td> </tr> </tbody> </table> <p>PROJECT FINANCIAL PLAN: (\$ in Millions)</p> <table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th></th> <th style="text-align: center;">FY 77 COST</th> <th style="text-align: center;">FY 78 QTY COST</th> <th style="text-align: center;">FY 79 QTY COST</th> <th style="text-align: center;">FY 80 QTY COST</th> <th style="text-align: center;">FY 81 QTY COST</th> <th style="text-align: center;">FY 82 QTY COST</th> <th style="text-align: center;">TOTAL PROGRAM QTY COST</th> </tr> </thead> <tbody> <tr> <td>Float</td> <td style="text-align: center;">.039</td> <td style="text-align: center;">1.107</td> <td style="text-align: center;">.172</td> <td style="text-align: center;">.255</td> <td style="text-align: center;">.243</td> <td style="text-align: center;">.199</td> <td style="text-align: center;">.697</td> </tr> <tr> <td>Total</td> <td style="text-align: center;">.039</td> <td style="text-align: center;">1.107</td> <td style="text-align: center;">.172</td> <td style="text-align: center;">1.970</td> <td style="text-align: center;">2.828</td> <td style="text-align: center;">2.839</td> <td style="text-align: center;">8.955</td> </tr> </tbody> </table>							FY 78 EST DATE	FY 79 EST DATE	FY 80 EST DATE	FY 81 EST DATE	FY 82 EST DATE	Mod Kit Contract Award	3Q FY 79	3Q FY 79	2Q FY 80	2Q FY 81	2Q FY 82	ECP Approval	3Q FY 79	3Q FY 79	6 months	6 months	6 months	Prod Lead Time	10 months	10 months	1Q FY 81	1Q FY 82	1Q FY 83	Mod Kit Delivery Start	3Q FY 80	3Q FY 80	1Q FY 81	1Q FY 82	1Q FY 83	Kit Installation Start	3Q FY 80	3Q FY 80	1Q FY 81	1Q FY 82	1Q FY 83	CPE Contract Award	Feb 78	6 months	1Q FY 80	1Q FY 81	1Q FY 82	Production Lead Time	6 months	6 months	6 months	6 months	6 months		FY 77 COST	FY 78 QTY COST	FY 79 QTY COST	FY 80 QTY COST	FY 81 QTY COST	FY 82 QTY COST	TOTAL PROGRAM QTY COST	Float	.039	1.107	.172	.255	.243	.199	.697	Total	.039	1.107	.172	1.970	2.828	2.839	8.955
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	FY 77	FY 78	FY 79	FY 80	FY 81	FY 82	FY 83	TOTAL PROG
	QTY COST	QTY COST	QTY COST	QTY COST	QTY COST	QTY COST	QTY COST	QTY COST
Recurring:								
STE(XM91/92s)	.039			.092	.404	.326		.861
Airframe Mod Kits		74 .164	74 .172	224 .611	235 .613	218 .601		825 2.161
XM-130 Dispenser		89 .665		111 .908	181 1.388	139 1.563		520 4.524
Non-Recurring:								
Gov't Eng Retrofit &		.278		.104	.180	.150		.712
Mod of the AH-1S				(102)(.298)	(270)(.691)	(235)(.768)		(2.509)
Installation: (OMA)		1.107	.172	1.715	2.585	2.640	(218) (-.752)	(825) 8.258
SUBTOTAL	.039	1.107	.172	1.715	2.585	2.640		8.258
Float				30 .255	27 .243	21 .199	78	.697
TOTAL	.039	1.107	.172	1.970	2.828	2.839		8.955

DELIVERY SCHEDULE: (A Kits)

FY 80	FY 81
1 2 3 4	1 2 3 4
74 74	50 50 75 49

FY 82	FY 83
1 2 3 4	1 2 3 4
58 59 59 59	54 54 55 55

INSTALLATION SCHEDULE:

FY 80	FY 81
1 2 3 4	1 2 3 4
51 51	67 67 68 68

FY 82	FY 83
1 2 3 4	1 2 3 4
58 59 59 59	54 54 55 55

METHOD OF IMPLEMENTATION: Hardware will be installed by depot contract teams and contractor personnel.

This P-3a includes 372 G to S Mod Program
290 Recycle Program
163 Field Mods of AH-1S's

CLASSIFICATION		FY 80 BUDGET ESTIMATE																																																											
REPORTS CONTROL SYMBOL DD-COMP (AR) 1092	AIRCRAFT MODIFICATION	DATE 1 JAN 1979																																																											
APPROPRIATION/BUDGET ACTIVITY	MODIFICATION TITLE AND NO. AN/ALQ-136 (XE-2) Radar Jammer 1-79-01-0976																																																												
<p>AIRCRAFT AFFECTED: AH-1S</p> <p>DESCRIPTION/JUSTIFICATION: Type of Improvement - Operational Capability. The AN/ALQ-136 (XE-2) Radar Jammer is designed to provide protection for AH-1S aircraft against radar directed air defense threat weapons. System consists of a receiver/transmitter unit, an antenna system, an operator control unit and an installation kit.</p> <p>DEVELOPMENT STATUS: DT/OT II - 4Q 78/1Q 79 DEVA IPR - 3Q 79</p> <p>MILESTONES:</p> <table border="1"> <thead> <tr> <th></th> <th>EST DATE FY 79</th> <th>EST DATE FY 80</th> <th>EST DATE FY 81</th> </tr> </thead> <tbody> <tr> <td>ECP Approval</td> <td>4Q 79</td> <td>1Q 80</td> <td>1Q 81</td> </tr> <tr> <td>Mod Kit Contract Award</td> <td></td> <td>6 months</td> <td>4 months</td> </tr> <tr> <td>Production Lead Time</td> <td></td> <td>3Q 80</td> <td>3Q 81</td> </tr> <tr> <td>Mod Kit Delivery start</td> <td></td> <td>3Q 80</td> <td>3Q 81</td> </tr> <tr> <td>Kit Installation start</td> <td></td> <td>4Q 80</td> <td>3Q 81</td> </tr> <tr> <td>GFE Contract Award</td> <td>4Q 79</td> <td></td> <td></td> </tr> </tbody> </table> <p>PROJECT FINANCIAL PLAN: (Amounts in Millions of Dollars)</p> <table border="1"> <thead> <tr> <th></th> <th>FY 79 QTY COST</th> <th>FY 80 QTY COST</th> <th>FY 81 QTY COST</th> <th>FY 82 QTY COST</th> <th>FY 83 QTY COST</th> </tr> </thead> <tbody> <tr> <td></td> <td>4.813</td> <td>8.360</td> <td>7.621</td> <td>11.404</td> <td>14.297</td> </tr> <tr> <td>TOTAL PROGRAM</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>FY 84 QTY COST</td> <td>.768</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td>47.263</td> </tr> </tbody> </table>					EST DATE FY 79	EST DATE FY 80	EST DATE FY 81	ECP Approval	4Q 79	1Q 80	1Q 81	Mod Kit Contract Award		6 months	4 months	Production Lead Time		3Q 80	3Q 81	Mod Kit Delivery start		3Q 80	3Q 81	Kit Installation start		4Q 80	3Q 81	GFE Contract Award	4Q 79				FY 79 QTY COST	FY 80 QTY COST	FY 81 QTY COST	FY 82 QTY COST	FY 83 QTY COST		4.813	8.360	7.621	11.404	14.297	TOTAL PROGRAM						FY 84 QTY COST	.768										47.263
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DMS-C Form
1 Apr 78

2075 Edition of 1 May 76, may be used.

P-1 SHOPP LIST
ITEM NO.

1-112 - 1/22/79

1 of 2

CLASSIFICATION
 811 13-10

EXHIBIT P. 3a

1 JAN 1979

SYSTEM: AH-1S PIP NO: 1-79-01-0976 DESCRIPTION: Radar Jammer

BASIS FOR COST ESTIMATE: (Amounts in Millions of Dollars)

	FY 79	FY 80	FY 81	FY 82	FY 83
	QTY	QTY	QTY	QTY	QTY
	COST	COST	COST	COST	COST
Non-Recurring	1.308	.678	.658	.352	.356
AN/ALQ-136 Systems	50 2.696	87 5.156	77 5.104	124 8.103	150 10.332
STE	.446	.871	.705	1.259	1.482
ECP MWO/A Kits	.363	162 .398	164 .425	164 .448	189 .543
A Kit Installations (OMA)		(107) (.272)	(172) (.462)	(129) (.367)	(129) (.393)
Float AN/ALQ-136 Systems		20 1.257	11 .729	19 1.242	23 1.584
TOTAL	4.813	8.360	7.621	11.404	14.297
		COMPLETE	TOTAL PROGRAM		
	FY 84	QTY	QTY		
	COST	COST	COST		
Non-Recurring		3.352			
AN/ALQ-136 Systems		483 31.391			
STE		4.763			
ECP MWO/A Kits	288 .768	967 2.945			
A Kit Installations (OMA)	(286) (.932)	(967) (2.937)			
Float AN/ALQ-136 Systems		73 4.812			
TOTAL	7.768	47.263			

METHOD OF IMPLEMENTATION: Modifications will be applied by depot and contractor teams.

A Kit Delivery Schedule:	FY 80	FY 81	FY 82	FY 83	FY 84	FY 85
	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4
	56 56	30 20 60 60	44 41 41 41	41 47 47 47	48 72 72 72	72
A Kit Installation Schedule:	FY 80	FY 81	FY 82	FY 83	FY 84	FY 85
	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4
	50 57	30 25 58 59	47 82	65 64	94 120 72	72 72

This P-3A includes 372 G to S Mod Program
290 Recycle Program
305 Field Mods of AN-1S's

901 15-11

CLASSIFICATION		FY 80 BUDGET ESTIMATE		DATE
REPORTS CONTROL SYMBOL DD-COMP (AR) 1092		AIRCRAFT MODIFICATION		1 JAN 84
APPROPRIATION/BUDGET ACTIVITY		SSN	MODIFICATION TITLE AND NO.	
APA/2		SSN AA0150	AN/AVR-2 Laser Warning Receiver	
AIRCRAFT AFFECTED: AR-1S				
<p><u>DESCRIPTION/ JUSTIFICATION:</u> Type of Improvement - Operational Capability. The Laser Warning Receiver System is designed to functionally integrate with the AN/APR-39 Radar Warning Receiver to detect laser threat energy directed at aircraft and to provide audio and visual warning.</p> <p><u>DEVELOPMENT STATUS:</u> It is estimated that DT/OT II Testing will be complete and a decision IPR will be held so that First Phase Engineering will start during 1Q FY 80.</p> <p><u>MILESTONES:</u></p> <p>FY 80</p> <p>Contract Award ECP</p> <p>2Q 80</p> <p>ECP Approval</p> <p>4Q 80</p>				
<u>PROJECT FINANCIAL PLAN (Amounts in Millions of Dollars)</u>				
		FY 80	FY 81	TOTAL PROGRAM
		QTY COST	QTY COST	QTY COST
		.510	.387	.897
<u>BASIS FOR COST ESTIMATE:</u> (Amounts in Millions of Dollars)				
		FY 80	FY 81	TOTAL PROGRAM
		QTY COST	QTY COST	QTY COST
		.510	.037	.510
			250 .350	.037
			.387	.350
				.897
A Kit ECP/MWO				
Non-Recurring Engr				
AVR-2 Systems				
TOTAL				

1-114 - 1/22/79

10-12

CLASSIFICATION

EXHIBIT P-3a

P-1 SHOPP LIST
ITEM NO.

1 OF 1

2075

DRSTS-C Form
1 Apr 78

2075

1 May 76, may be used.

CLASSIFICATION		FY 80 BUDGET ESTIMATE		DATE 1 JAN 1979	
REPORTS CONTROL SYMBOL DD-COMP (AR) 1082		AIRCRAFT MODIFICATION			
APPROPRIATION/BUDGET ACTIVITY		APA/2	SSN AA0150	MODIFICATION TITLE AND NO. Hot Metal + Plume Suppressor 1-78-01-0408 (Sub PIP to 0479)	
AIRCRAFT AFFECTED: AH-1S					
DESCRIPTION/JUSTIFICATION: Type of Improvement - Operational Capability. The Hot Metal Plus Plume Suppressor will add an insulated up-turned exhaust pipe and ejector/mixer to draw in air and mix with hot exhaust gases. This will reduce the aircraft's vulnerability to IR detection and IR homing missiles especially in low speed flight.					
DEVELOPMENT STATUS: ED Contract Complete - 4Q FY 78 DT/OT II - 3/4Q FY 78 Production Decision - 1Q FY 79					
MILESTONES:					
	FY 79	FY 80	FY 81		
Production Contract Award	2Q FY 79	1Q FY 80	1Q FY 81		
Production Lead Time	5 months	5 months	5 months		
Deliveries Start	3Q FY 79	2Q FY 80	2Q FY 81		
PROJECT FINANCIAL PLAN: (Dollars in Millions)					
	FY 78	FY 79	FY 80	FY 81	TOTAL PROGRAM
	.050	.999	2.490	.764	4.303
Float			.593		.593
Total	.050	.999	3.083	.764	4.896

1-115 - 1/22/79

SYSTEM: AH-1S PIP NO. 1-78-01-0408 DESCRIPTION: Hot Metal + Plume Suppressor 1 JAN 1979
BASIS FOR COST ESTIMATE: (Dollars in Millions)

	FY 78	FY 79	FY 80	FY 81	TOTAL PROGRAM
	QTY COST	QTY COST	QTY COST	QTY COST	QTY COST
Suppressors		93 .963	215 2.423	64 .764	372 4.150
Non Recurring Eng	.050	.036	.067		.153
FLOAT			53 .593		.593
TOTAL	.050	.999	3.083	.764	4.896

METHOD OF IMPLEMENTATION: Provisions to accept the installed IR Suppressor will be installed by contractor during AH-1 G to S Mod program PIP 0479. Dollars and schedules are included in the PIP. The suppressor as designed, is to be installed as one complete system.

811 15-14

CLASSIFICATION		FY 80 BUDGET ESTIMATE																																										
REPORTS CONTROL SYMBOL DD-COMP (AR) 1082	AIRCRAFT MODIFICATION		DATE 1 JAN 1973																																									
APPROPRIATION/BUDGET ACTIVITY	SSN AA0150	MODIFICATION TITLE AND NO. 1-78-01-0856 (Sub PIP to 0479) AN/ALQ-144 Omni-Directional Infrared Jammer																																										
<p>AIRCRAFT AFFECTED: AH-1S</p> <p>DESCRIPTION/JUSTIFICATION: Type of Improvement - Operational Capability. The AN/ALQ-144 is an omni-directional infrared jammer designed to protect Army aircraft from infrared homing (e.g. heat seeking) missiles.</p> <p>DEVELOPMENT STATUS: DT/OT II Complete - Oct 77 DEVA IPR - 3Q FY 78</p> <p>MILESTONES:</p> <table border="0"> <tr> <td>AN/ALQ-144 Cont Awd</td> <td>FY 79</td> <td>FY 80</td> <td>FY 81</td> </tr> <tr> <td>Production Lead Time</td> <td>1Q FY 79</td> <td>1Q FY 80</td> <td>1Q FY 81</td> </tr> <tr> <td>GFE Delivery Starts</td> <td>14 months</td> <td>14 months</td> <td>14 months</td> </tr> <tr> <td></td> <td>1Q FY 80</td> <td>1Q FY 81</td> <td>1Q FY 82</td> </tr> </table> <p>PROJECT FINANCIAL STATUS: (Amounts in Millions)</p> <table border="0"> <tr> <td></td> <td>FY 79</td> <td>FY 80</td> <td>FY 81</td> <td>TOTAL PROGRAM</td> </tr> <tr> <td></td> <td>QTY COST</td> <td>QTY COST</td> <td>QTY COST</td> <td>QTY COST</td> </tr> <tr> <td></td> <td>3.536</td> <td>4.704</td> <td>1.719</td> <td>9.959</td> </tr> <tr> <td>Float</td> <td></td> <td>.997</td> <td></td> <td>.997</td> </tr> <tr> <td>Total</td> <td>3.536</td> <td>5.701</td> <td>1.719</td> <td>10.956</td> </tr> </table>				AN/ALQ-144 Cont Awd	FY 79	FY 80	FY 81	Production Lead Time	1Q FY 79	1Q FY 80	1Q FY 81	GFE Delivery Starts	14 months	14 months	14 months		1Q FY 80	1Q FY 81	1Q FY 82		FY 79	FY 80	FY 81	TOTAL PROGRAM		QTY COST	QTY COST	QTY COST	QTY COST		3.536	4.704	1.719	9.959	Float		.997		.997	Total	3.536	5.701	1.719	10.956
AN/ALQ-144 Cont Awd	FY 79	FY 80	FY 81																																									
Production Lead Time	1Q FY 79	1Q FY 80	1Q FY 81																																									
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Float		.997		.997																																								
Total	3.536	5.701	1.719	10.956																																								

SYSTEM: AH-1S PIP NO. 1-78-01-0856 DESCRIPTION: Omni-Directional Infrared (IR) Jammer

1 JAN 1979

BASIS FOR COST ESTIMATE: (Amounts in Millions)

	FY 79		FY 80		FY 81		TOTAL PROGRAM	
	QTY	COST	QTY	COST	QTY	COST	QTY	COST
AN/ALQ-144	148	2.537	160	2.551	64	1.719	372	6.807
STE	24	.341	94	1.465				1.806
Non-Recurring		.658		.688				1.346
FLOAT			53	.997			53	.997
TOTAL		3.536		5.701		1.719		10.956

METHOD OF IMPLEMENTATION: Provisions to accept the AN/ALQ-144 will be installed during AH-1 G to S mod program, PIP 0479. Dollars and schedules are included in the PIP.

FY 80 BUDGET ESTIMATE

REPORTS CONTROL SYMBOL DD-COMP(AR) 1092		AIRCRAFT MODIFICATIONS		EXHIBIT P-3		
APPROPRIATION APA 2		SSN: AA0250		FY	DATE	
AIRCRAFT MODEL	MODIFICATION NUMBER	DESCRIPTION OF MODIFICATION	NUMBER AIRCRAFT	UNIT COST	TOTAL COST (Thousands)	
CH-47C	ECP 712 Proposal No. 1-77-01-0816-A-I	AIRFRAME Fiberglass Rotor Blades Non-recurring Tooling Kits	56	238,500*	13,356	
CH-47D	Proposal No. 1-80-01-0815-A-I	Modernization Long Lead Time Items			27,432	
CH-47C	ECP 710 Proposal No. 1-78-01-0700-D	Conversion of T55-L-11D to T55-L-712 Engine Airframe Kits	105	3,990	419	
		TOTAL AIRFRAME			48,959	
*Includes cost of blades, MWO kits, transportation, containers and slings.						
CH-47C	ECP 710 Proposal No. 1-78-01-0700-D	ENGINE Conversion of T55-L-11D to T55-L-712 Engine Kits	91	113,919	10,367	
		TOTAL ENGINE			10,367	
		TOTAL			59,326	
		1-119 - 1/22/79			15-1	

Previous editions are obsolete.

FY 80 BUDGET ESTIMATE

CLASSIFICATION		REPORTS CONTROL SYMBOL DD-COMP (AR) 1092		AIRCRAFT MODIFICATION		DATE 1 JAN 1979																																																																																																
APPROPRIATION/BUDGET ACTIVITY APA 2		SSN: AA0250		MODIFICATION TITLE AND NO. CH-47C Fiberglass Rotor Blades, 1-77-01-0816-A-1																																																																																																		
<p>AIRCRAFT AFFECTED: CH-47C</p> <p>DESCRIPTION/JUSTIFICATION: Type of Improvement - Reliability and Maintainability. Implementation of this PIP will equip the CH-47C fleet with fiberglass rotor blades, thereby reducing the requirements for procurement of higher price metal blades with their associated high life cycle costs. It will also increase safety, survivability and reduce vulnerability and maintenance man-hours for the CH-47C.</p> <p>DEVELOPMENT STATUS:</p> <p>Design Completion Date Feb 76 Prototype Completion Date Feb 78 Testing Complete 4Q FY 78</p> <p>MILESTONES:</p> <table style="width:100%;"> <tr> <td style="width:33%;">Engineering Initiated</td> <td style="width:33%;">FY 77</td> <td style="width:33%;">FY 78</td> <td style="width:33%;">FY 79</td> <td style="width:33%;">FY 80</td> <td style="width:33%;">FY 81</td> <td style="width:33%;">FY 82</td> </tr> <tr> <td>Flight Qualification Complete</td> <td>Sep 77</td> <td>4Q FY 78</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Contract Award for Formal ECP</td> <td></td> <td></td> <td>1Q FY 79</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Formal ECP Approval</td> <td></td> <td></td> <td>2Q FY 79</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Contract Award for Kits</td> <td></td> <td></td> <td>2Q FY 79</td> <td>1Q FY 80</td> <td>1Q FY 81</td> <td>1Q FY 82</td> </tr> <tr> <td>Lead time of Kits - 14 months</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Optimum Production Rate - 65 blades/month</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Kit Delivery Starts</td> <td></td> <td></td> <td>4Q FY 80</td> <td>1Q FY 81</td> <td>1Q FY 82</td> <td>1Q FY 83</td> </tr> <tr> <td>Kit Installation Complete</td> <td></td> <td></td> <td>4Q FY 80</td> <td>4Q FY 81</td> <td>1Q FY 83</td> <td>2Q FY 83</td> </tr> </table> <p>PROJECT FINANCIAL PLAN: (\$ in Millions)</p> <table style="width:100%;"> <tr> <th></th> <th>FY 77</th> <th>FY 78</th> <th>FY 79</th> <th>FY 80</th> <th>FY 81</th> <th>FY 82</th> <th>TOTAL</th> </tr> <tr> <td>Qty</td> <td>Cost</td> <td>Qty</td> <td>Cost</td> <td>Qty</td> <td>Cost</td> <td>Qty</td> <td>Cost</td> </tr> <tr> <td>4.243</td> <td>.900</td> <td>13</td> <td>9.584</td> <td>56</td> <td>21.108</td> <td>97</td> <td>22.043</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td>44</td> <td>9.340</td> <td>210</td> <td>67.218</td> </tr> </table> <p>NOTE: Qty is in shipsets (6 blades per shipset)</p>								Engineering Initiated	FY 77	FY 78	FY 79	FY 80	FY 81	FY 82	Flight Qualification Complete	Sep 77	4Q FY 78					Contract Award for Formal ECP			1Q FY 79				Formal ECP Approval			2Q FY 79				Contract Award for Kits			2Q FY 79	1Q FY 80	1Q FY 81	1Q FY 82	Lead time of Kits - 14 months							Optimum Production Rate - 65 blades/month							Kit Delivery Starts			4Q FY 80	1Q FY 81	1Q FY 82	1Q FY 83	Kit Installation Complete			4Q FY 80	4Q FY 81	1Q FY 83	2Q FY 83		FY 77	FY 78	FY 79	FY 80	FY 81	FY 82	TOTAL	Qty	Cost	Qty	Cost	Qty	Cost	Qty	Cost	4.243	.900	13	9.584	56	21.108	97	22.043					44	9.340	210	67.218
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BASIS FOR COST ESTIMATE: (\$ in Millions)

METHOD OF IMPLEMENTATION: Application will be by MMO at AVIM level.

***Blades**

1-121 - 1/22/79

16-3

FY 80 BUDGET ESTIMATE

CLASSIFICATION		AIRCRAFT MODIFICATION		DATE 1 JAN 1979																														
REPORTS CONTROL SYMBOL DD-COMP (AR) 1092																																		
APPROPRIATION/BUDGET ACTIVITY APA 2		MODIFICATION TITLE AND NO. CH-47D Modernization, 1-80-01-0815-A-I																																
SSN: AA0250																																		
AIRCRAFT AFFECTED: CH-47D																																		
<p>DESCRIPTION/JUSTIFICATION: Type of Improvement - Improved Operational Capability. Provides for incorporation of advances in design technology since introduction of CH-47s into Army inventory. Integration of these changes will result in improved reliability, maintainability and reduced vulnerability. Based upon the 20 year life expectancy of the CH-47D modernized aircraft, the year designator of each current serial number will be changed to year of acceptance. The CH-47 (Chinook) medium lift helicopter was developed in the late 50's with the first CH-47s being procured in 1962. The Chinook provided invaluable battlefield mobility in Vietnam for tactical vehicles, artillery and engineer equipment, personnel and logistical support equipment. The Chinook will continue in service to meet the Army medium lift requirement during the 1980's. The CH-47A and B models fail to meet the Required Operational Capability (ROC) of 15,000 lb. payload for medium lift helicopters.</p>																																		
DEVELOPMENT STATUS: (RDTE Funded)																																		
<p>Modernization Development Contract</p> <p>1st Flight Jun 76</p> <p>Preliminary Airworthiness Evaluation (PAE) 4Q FY 79</p> <p>DT II/OT II Start 1Q FY 80</p> <p>DT II/OT II Complete 2Q FY 80</p> <p>ASARC III 3Q FY 80</p> <p>DSARC III 4Q FY 80</p>																																		
<p>MILESTONES:</p> <table border="0"> <tr> <td>FY 80</td> <td>FY 81</td> <td>FY 82</td> <td>FY 83</td> <td>FY 84</td> <td>To Completion</td> </tr> <tr> <td>Long Lead Time Items</td> <td>1Q FY 80</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Production Contract Award</td> <td>1Q FY 81</td> <td>1Q FY 82</td> <td>1Q FY 83</td> <td>1Q FY 84</td> <td>1Q ea FY</td> </tr> <tr> <td>Induction Starts</td> <td>3Q FY 83</td> <td>2Q FY 84</td> <td>1Q FY 85</td> <td>1Q FY 86</td> <td>1Q FY 87 thru</td> </tr> <tr> <td>Delivery Complete</td> <td></td> <td></td> <td></td> <td></td> <td>4Q FY 93</td> </tr> </table>					FY 80	FY 81	FY 82	FY 83	FY 84	To Completion	Long Lead Time Items	1Q FY 80					Production Contract Award	1Q FY 81	1Q FY 82	1Q FY 83	1Q FY 84	1Q ea FY	Induction Starts	3Q FY 83	2Q FY 84	1Q FY 85	1Q FY 86	1Q FY 87 thru	Delivery Complete					4Q FY 93
FY 80	FY 81	FY 82	FY 83	FY 84	To Completion																													
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Induction Starts	3Q FY 83	2Q FY 84	1Q FY 85	1Q FY 86	1Q FY 87 thru																													
Delivery Complete					4Q FY 93																													

1-122 - 1/22/79

DESAY-C Form 2075
1 May 76

P-1 SHOPP LIST
ITEM NO. 1 of 2

CLASSIFICATION 8U
16-4

EXHIBIT P. 3a

1 JAN 1979

METHOD OF IMPLEMENTATION: CH-47A, B and C model aircraft will be inducted from the field to the contractor's site for modernization.

178 16-5

FY 80 BUDGET ESTIMATE

CLASSIFICATION		AIRCRAFT MODIFICATION		DATE																																																																																																			
REPORTS CONTROL SYMBOL DD-COMP (AR) 1062				1 JAN 87																																																																																																			
APPROPRIATION/BUDGET ACTIVITY APA/2		MODIFICATION TITLE AND NO. Conversion of T55-L-11D to T55-L-712 1-78-01-0700C SSN AA0250																																																																																																					
<p>AIRCRAFT AFFECTED: CH-47C</p> <p>DESCRIPTION/JUSTIFICATION: Type of Improvement - Reliability and Maintainability This PIP provides hardware for a long life (RAM-D) engine. It also provides hardware for emergency power conditions. This hardware will make up an engine identified as the T55-L-712. Improved RAM-D hardware is necessary in order to increase the Mean-Time-Between-Depot for all causes (MTBDA) for the T55-L-11D engine to over 1000 hrs. Emergency power hardware is necessary in order to provide reduced aircraft vulnerability in the event of an engine being disabled. A T55-L-11D engine with RAM-D and emergency power hardware installed will be reidentified as the T55-L-712 engine.</p> <p>DEVELOPMENT STATUS: Program initiated 1 Mar 76. Four (4) test engines have been converted to the T55-L-712 configuration and testing has begun to determine low-cycle fatigue, extended service life and performance. This testing is being accomplished under the Component Improvement Program.</p> <p>MILESTONES:</p> <p>Contract Award for: Tooling Long Lead Time Castings Engine Production Kits Lead Time - 21 Months Production Rate - Initial Buy - 5 per Month Thereafter 8 per Month Eng Kit Delivery Starts Eng Kit Installation Starts Eng Kit Installation Complete Contract Award for Airframe Kits Lead Time 10 Months Production Rate - 10 per Month A/F Kit Delivery Starts</p>																																																																																																							
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			2Q 80	1Q 81																																																																																																			

Conversion of T55-L-11D to T55-L-712

JAN 1971

	FY 76	FY 77	FY 78	FY 79	FY 80	FY 81	FY 82	FY 83	FY 84
ACT DATE EST DATE EST DATE EST DATE EST DATE EST DATE EST DATE									

A/F Kit Installation Starts

1Q 81	3Q 82
2Q 82	2Q 83

BASIS FOR COST ESTIMATE: (Amounts in Millions of Dollars)

	FY 76		FY 79		FY 80		FY 81		FY 82		FY 83		FY 84		TOTAL	
	QTY	COST	QTY	COST	QTY	COST	QTY	COST	QTY	COST	QTY	COST	QTY	COST	QTY	COST
Kits Engine			53	5.357	91	10.367									496	61.065
Airframe			105	.394	105	.419	104	12.509	96	12.151	96	12.807	56	7.874	210	.813
Non-Recur																
PEMA (tooling 1.210)				.742												1.952
OMA								(.075)								(.075)
Instl																
PEMA																
OMA							(45)	(.058)	(120)	(.163)	(45)	(.064)			(210)	(.285)

1.210	158 6.493	196 10.786	104 12.509	96 12.151	96 12.807	56 7.874	706 63.830
TOTAL							

METHOD OF IMPLEMENTATION: Implementation of Airframe Kits by contractor and depot. Engine conversion accomplished by depot during overhaul.

[illegible]

16-7

SYSTEM: CH-47C PIP NO: 1-78-01-0700C

1 JAN 1979

Conversion of T55-L-11D to T55-L-712

	FY 80				FY 81				FY 82				FY 83				TOTAL
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	
Airframe Kit																	
Delivery Schedule	30	30	30	30	30	30	30	30									210
Installation Schedule																	
Induction					10	10	10	15	30	30	30	30	30	30	15		210

CLASSIFICATION		AIRCRAFT MODIFICATION		DATE 1 JAN 1979																											
REPORTS CONTROL SYMBOL DD-COMP (AR) 1092																															
APPROPRIATION/BUDGET ACTIVITY AFA/2		SSN: AA0300	MODIFICATION TITLE AND NO. Improved Anti-Collision Lights 1-74-01-0203-F (ECP 8215)																												
<p>AIRCRAFT AFFECTED: CH-54 A/B</p> <p>DESCRIPTION/JUSTIFICATION: Type of Improvement - Safety</p> <p>The existing CH-54 rotating beacon will be replaced with a longer life and high visibility strobe light. The proposed improvement will consist of a high intensity white strobe light for daylight operations (safety) and a lower intensity red strobe light for night operations. the strobe light proposed has a higher Mean Time Between Failure (MTBF) than the present light.</p> <p>DEVELOPMENT STATUS :</p> <p>Prototype Completion Date: Jan 79 Testing Completion Date: Jun 79</p> <p>MILESTONES:</p> <table border="0"> <tr> <td></td> <td>FY 78</td> <td>FY 79</td> </tr> <tr> <td></td> <td>EST DATE</td> <td>EST DATE</td> </tr> <tr> <td>Contract Award for ECP</td> <td>Nov 78</td> <td></td> </tr> <tr> <td>ECP Approval</td> <td></td> <td>4Q 79</td> </tr> <tr> <td>Contract Award for Kits GSE/SSE, Training Aids/ Devices, etc.</td> <td></td> <td>1Q 80</td> </tr> <tr> <td>Leadtime of Kits - 4 Mos</td> <td></td> <td></td> </tr> <tr> <td>Production Rate of Kits - 12/Mo</td> <td></td> <td>2Q 80</td> </tr> <tr> <td>Kit Delivery Starts</td> <td></td> <td>1Q 82</td> </tr> <tr> <td>Kit Installation Completed</td> <td></td> <td></td> </tr> </table>						FY 78	FY 79		EST DATE	EST DATE	Contract Award for ECP	Nov 78		ECP Approval		4Q 79	Contract Award for Kits GSE/SSE, Training Aids/ Devices, etc.		1Q 80	Leadtime of Kits - 4 Mos			Production Rate of Kits - 12/Mo		2Q 80	Kit Delivery Starts		1Q 82	Kit Installation Completed		
	FY 78	FY 79																													
	EST DATE	EST DATE																													
Contract Award for ECP	Nov 78																														
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Kit Delivery Starts		1Q 82																													
Kit Installation Completed																															
DRST-C Form 1 Apr 78		2075 Edition of 1 May 76, may be used.		P-1 SHOPP LIST ITEM NO.																											
		1-128 - 1/22/79		CLASSIFICATION BLI																											
				17-2 EXHIBIT P. 3a																											

SYSTEM: CH-54 PIP NO: 1-74-01-0203-F DESCRIPTION: Improved Anti-Collision Lights

PROJECT FINANCIAL PLAN: (Amounts in Millions of Dollars)

1 JAN 1979

	<u>FY 80</u>	<u>TOTAL</u>
	<u>QTY COST</u>	<u>QTY COST</u>
	36 .107	36 .107

BASIS FOR COST ESTIMATES: (Amounts in Millions of Dollars)

	<u>FY 79</u>	<u>FY 80</u>	<u>FY 81</u>	<u>TOTAL</u>
	<u>QTY COST</u>	<u>QTY COST</u>	<u>QTY COST</u>	<u>QTY COST</u>
Kits		36 .107		36 .107
GFE				
Non-Recur				
OMA			(.092)	(.092)
PEMA				
Instl				
PEMA				
OMA				
		(36)(.120)		(36)(.120)
		36 .107		36 .107

METHOD OF IMPLEMENTATION: Depot Teams will install field level by MWO.

KIT DELIVERY SCHEDULE:

	<u>FY 80</u>
	<u>1 2 3 4</u>
	<u>18 18</u>

INSTALLATION SCHEDULE:

	<u>FY 80</u>	<u>FY 81</u>
	<u>1 2 3 4</u>	<u>1 2 3 4</u>
	<u>12 12</u>	<u>12 12</u>

BU 17-3

1-129 - 1/22/79

FY 80 BUDGET ESTIMATE

AIRCRAFT MODIFICATION				EXHIBIT P-3		
APPROPRIATION APA/2		FY	80	DATE	1 JAN 1979	
AIRCRAFT MODEL	MODIFICATION NUMBER	DESCRIPTION OF MODIFICATION		NUMBER AIRCRAFT	UNIT COST	TOTAL COST (Thousands)
EH-1H/X EH-1H/X	1-75-01-0835-H 1-79-01-1782-B	Quick Fix (Phase II) AN/ALQ-144 OMNI Directional IR Jammer -Non Recurring -ALQ-144 System -Airframe Kits -STE		33 28 5	19,970 4,465 15,000	14,383 415 659 125 075
EH-1H/X	1-79-01-1779-B	XM-130 General Purpose Dispensor -XM-130 System -Airframe Kits -STE 91 -STE 92 -Non Recurring		33 10 28 6	8,516 2,600 1,179 3,334	281 026 033 020 1,046
EH-1H/X	1-80-01-1784-A	AN/APR-39(V)2 Radar Warning Receiver -Non Recurring -Government Engineering Support -AN/APR-44(V)L System -Special Test Equipment		33 11	22,242 79,182	134 147 634 871
TOTAL						18,849

DRST-C Form 1 Apr 78

2077

Edition of 1 Apr 76, may be used.

CLASSIFICATION		AIRCRAFT MODIFICATION		DATE 1 JAN 1979																																																																																				
REPORTS CONTROL SYMBOL DD-COMP (AR) 1082		MODIFICATION TITLE AND NO, Quick Fix PIP # 1-75-01-0835-H, SSN: A21200																																																																																						
APPROPRIATION/BUDGET ACTIVITY AFA/2																																																																																								
<p>Aircraft Affected: UH-1H Converted to EH-1.</p> <p>DESCRIPTION/JUSTIFICATION: Type of Improvement - Operational Capability. This is a conversion program which will proceed in two phases.</p> <p>Justification is contained in the "Quick Fix" ROC.</p> <p>DEVELOPMENT STATUS: Phase I completed DT/OT II in Nov 73 with EH-1H (LP-U) type classification in May 74. DT/OT III and aircraft delivery was completed in June 78. Phase II completed DT/OT II in Apr 77. Contract award is anticipated during with aircraft delivery commencing during Phase IA rework will start during with final delivery in</p> <p>Milestones:</p> <table border="1"> <thead> <tr> <th></th> <th>FY 75 & Prior</th> <th>FY 76</th> <th>FY 77</th> <th>FY 78</th> <th>FY 80</th> <th>FY 81</th> </tr> </thead> <tbody> <tr> <td>Phase IA & IB</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>GFE Awards</td> <td>May 75 (IA)</td> <td>Mar 76 (IB)</td> <td>Jul 76 (IB)</td> <td>Nov 76 (IB)</td> <td></td> <td></td> </tr> <tr> <td>Test Equip Award</td> <td>May 75 (IA)</td> <td>Aug 75 (IA)</td> <td>Nov 76 (IB)</td> <td>Nov 76 (IB)</td> <td></td> <td></td> </tr> <tr> <td>EH-1H Production Awards</td> <td>Aug 75 (IA)</td> <td>Aug 75 (IA)</td> <td>Jan 77 (IB)</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Phase IA Rework Award</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Phase II</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>GFE Awards</td> <td></td> <td></td> <td></td> <td>Oct 76</td> <td></td> <td></td> </tr> <tr> <td>Test Equip Awards</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>EH-1 Award</td> <td></td> <td></td> <td></td> <td>May 78</td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td>May 78</td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td>1Q79</td> <td></td> <td></td> </tr> </tbody> </table>						FY 75 & Prior	FY 76	FY 77	FY 78	FY 80	FY 81	Phase IA & IB							GFE Awards	May 75 (IA)	Mar 76 (IB)	Jul 76 (IB)	Nov 76 (IB)			Test Equip Award	May 75 (IA)	Aug 75 (IA)	Nov 76 (IB)	Nov 76 (IB)			EH-1H Production Awards	Aug 75 (IA)	Aug 75 (IA)	Jan 77 (IB)				Phase IA Rework Award							Phase II							GFE Awards				Oct 76			Test Equip Awards							EH-1 Award				May 78							May 78							1Q79		
	FY 75 & Prior	FY 76	FY 77	FY 78	FY 80	FY 81																																																																																		
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				1Q79																																																																																				

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BASIS FOR COST ESTIMATE: (Amounts in millions of dollars.)

	FY 75		FY 76		FY 77		FY 78		FY 79		FY 80		FY 81		TOTALS	
	QTY	COST	QTY	COST	QTY	COST	QTY	COST	QTY	COST	QTY	COST	QTY	COST	QTY	COST
PHASE I	4	3.627	-	3.409	-	.078	14	10.018	-	-	-	-	-	-	-	-
PHASE II	-	-	-	.083	-	-	-	9.307	5	11.800	-	-	-	-	-	-
TOTAL		3.627		3.492		.078		19.325		11.800		-				

Due to the rework of 4 Phase 1A A/C, there will be only Phase 1B A/C upon Program completion

BASIS FOR COST ESTIMATE (AMOUNTS IN MILLIONS)

	FY 75		FY 76		FY 77		FY 78		FY 79		FY 80		FY 81		TOTALS	
	QTY	COST	QTY	COST	QTY	COST	QTY	COST	QTY	COST	QTY	COST	QTY	COST	QTY	COST
PHASE IA & IB																
EH-1 CONVERSION				1.100		1.410		4.223								
AN/ARM-164				.298		.236		.998								
GFE				1.998		1.414		3.817								
TEST EQUIPMENT				.029		.043		.097								
IN HOUSE SUPPORT				.202		.306		.883								
OMA																
TOTALS				3.627		3.409		10.018								

SYSTEM: EH-1

PIP NO: 1-75-01-0835.

Page 3 of 3
PIP DESCRIPTION: Quick Fix

1 JAN 1979

BASIS FOR COST ESTIMATE: (Amounts in millions of dollars) Cont'd

	FY 75	FY 76	FY 77	FY 78	FY 79	FY 80	FY 81	TOTALS
PHASE II								
Engineering		.083	.378	2.299	-	-	-	
Design			.350	3.518	-	-	-	
Test			(1) .329	(7) 1.478	-	-	-	
Installation			-	(6) .705	-	-	-	
GFE Δ (2 trainers)			(5) 3.987	(2) 1.263	-	-	-	
CFF (2 trainers)			(5) 2.178	(2) 2.303	-	-	-	
Floata Δ			(1) 1.278	.174	-	-	-	
Test Equip: (4) TIQ-17A, (3) AIQ-151, (2) APR-39(V) Δ			(6) .737	-	-	-	-	
Auxiliary Power Unit(3)			(2) .070	(1) .060	-	-	-	
OMA			-	-	-	-	-	
Phase II Subtotals		.083	9.307	11.800	-	-	-	
Program Totals (IA, IB, II)	3.627	3.492	.078	19.325	-	-	-	

Δ Quantities indicate DF sets and not all GFE procurement.
APR-39 (V) 1 and associated test equipment will be updated to APR-39 (V) 2 configuration per PIP #1-80-01-1784.

This program does not require OMA funds for engineering or installation.

METHOD OF IMPLEMENTATION: Phase IA by Navy. Phase IB will be by Army Depots. Phase II planned to be a sole source contract. Phase IA remark planned to be by Army Depots.

AIRCRAFT GFE DELIVERY AND INSTALLATION SCHEDULE FOR CONVERSION PROGRAM:

	FY																																			
	FY 76				FY 77				FY 78				FY 79				FY 80				FY 81				FY 82				FY 83				TOTALS			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4				
GFE Delivery	-	-	-	-	1	-	-	3	-	-	4	4	2	3*	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-					
Inductions	-	-	-	-	1	-	-	-	3	-	1	4	4	4	1	-	2*	-	-	-	-	-	-	-	-	-	-	-	-	-	-					
Completions	-	-	-	-	-	-	-	-	-	-	-	4	4	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-					

* Initiation of Phase II

** Due to the rework of the 4 phase IA A/C there will be a total of Phase IB A/C and 1-133 - 1/22/79

Phase II A/C at program completion

• Initiation of Phase IA rework

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CLASSIFICATION		FY 80 BUDGET ESTIMATE																					
REPORTS CONTROL SYMBOL DD-COMP (AR) 1092	AIRCRAFT MODIFICATION	DATE • 1 JAN 1979																					
APPROPRIATION/BUDGET ACTIVITY APA/2	MODIFICATION TITLE AND NO. 1-79-01-1782 AN/ALQ-144 Omni Directional IR Jammer																						
<p><u>AIRCRAFT AFFECTED:</u> EH-1H/X SSN A21200</p> <p><u>DESCRIPTION/JUSTIFICATION:</u> Type of Improvement - Operational Capability. The AN/ALQ-144 is an omni directional infrared jammer designed to protect Army aircraft from infrared homing (e.g., heat seeking) missiles.</p> <p><u>DEVELOPMENT STATUS:</u> The system has completed DT/OT II with DEVA IPR completed in June 1978. First production award scheduled for December 1979 with add-on buys for the EH-1H/X aircraft is scheduled for 1Q FY 80.</p> <p><u>MILESTONES:</u></p> <table border="0"> <tr> <td></td> <td><u>FY 80</u></td> </tr> <tr> <td>Contract Award Kits</td> <td>3Q 80</td> </tr> <tr> <td>Production Lead Time</td> <td>5 months</td> </tr> <tr> <td>Kit Delivery Starts</td> <td>1Q 81</td> </tr> <tr> <td>ALQ-144 Cont Award</td> <td>1Q 80</td> </tr> <tr> <td>Production Lead Time</td> <td>12 months</td> </tr> <tr> <td>Del Starts</td> <td>2Q 81</td> </tr> </table> <p><u>PROJECT FINANCIAL PLAN</u> (Amounts in Millions of Dollars)</p> <table border="0"> <tr> <td><u>FY 80</u></td> <td><u>TOTAL PROGRAM</u></td> </tr> <tr> <td><u>QTY</u> <u>COST</u></td> <td><u>QTY</u> <u>COST</u></td> </tr> <tr> <td>1.274</td> <td>1.274</td> </tr> </table>					<u>FY 80</u>	Contract Award Kits	3Q 80	Production Lead Time	5 months	Kit Delivery Starts	1Q 81	ALQ-144 Cont Award	1Q 80	Production Lead Time	12 months	Del Starts	2Q 81	<u>FY 80</u>	<u>TOTAL PROGRAM</u>	<u>QTY</u> <u>COST</u>	<u>QTY</u> <u>COST</u>	1.274	1.274
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1.274	1.274																						
DMS-C Form 1 Apr 78 2075 Edition of 1 May 76, may be used.		1-134 - 1/22/79																					
P-1 SHOPP LIST ITEM NO.		PAGE NO. 1 of 2																					
CLASSIFICATION		BUJ 18-5																					
EXHIBIT P. 3a																							

SYSTEM: EH-1

ALQ-144
Page 2 of 2
1 JAN 1979 PIP 1-79-01-1782
Exhibit P-3a

BASIS FOR COST ESTIMATE (Amounts in Millions of Dollars)

	FY 80	FY 81	FY 82	TOTAL PROGRAM
	QTY COST	QTY COST	QTY COST	QTY COST
A Kits	28 .125			28 .125
ALQ-144 System	33 .659			33 .659
STE	5 .075			5 .075
Non-Recurring	.415			.415
Installation (OMA)		(18) (.055)	(10) (.031)	(28) (.086)
TOTAL	1.274			1.274

METHOD OF IMPLEMENTATION: Aircraft will be modified by use of contact/depot contact teams, (18 EH-1Hs and 10 EH-1Hs aircraft).

DELIVERY SCHEDULE:

	FY 80	FY 81	FY 82
	1 2 3 4	1 2 3 4	1 2 3 4
Kits		1 2 3 4	

INSTALLATION SCHEDULE:

Field Installation	2 6 10	10
--------------------	--------	----

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CLASSIFICATION		FY 80 BUDGET ESTIMATE																																					
REPORTS CONTROL SYMBOL DD-COMP (AR) 1092	AIRCRAFT MODIFICATION	DATE 1 JAN 1979																																					
APPROPRIATION/BUDGET ACTIVITY APA/2	MODIFICATION TITLE AND NO. 1-79-01-1779 XM-130 General Purpose Dispenser																																						
AIRCRAFT AFFECTED: EH-1H/X SSN, AZ1200																																							
<p>DESCRIPTION/JUSTIFICATION: Type of Improvement - Operational Capability. The XM-130 dispenser system provides effective countermeasure against Radar, AAA, and infrared missile threats. The system incorporates the most appropriate design features of existing decoy dispensing system, and is modularly constructed to achieve maximum commonality of components.</p> <p>DEVELOPMENT STATUS: The system has completed DT/OT II with DEVA IPR held Aug 1977. First production awarded September 1977 with add-on buys for EH-1H/X aircraft is scheduled for 1Q FY 80 and 1Q FY 81.</p> <p>MILESTONES:</p> <table border="1"> <thead> <tr> <th></th> <th>FY 80</th> <th>FY 81</th> </tr> </thead> <tbody> <tr> <td>Engineering initiated</td> <td>1Q 80</td> <td>1Q 81</td> </tr> <tr> <td>Production decision</td> <td>1Q 80</td> <td>3Q 81</td> </tr> <tr> <td>1st Kit delivered</td> <td>1Q 81</td> <td>4Q 81</td> </tr> <tr> <td>1st Installation</td> <td>2Q 81</td> <td>1Q 81</td> </tr> <tr> <td>GFE Award</td> <td>1Q 80</td> <td>6 months</td> </tr> <tr> <td>Production leadtime</td> <td>12 months</td> <td>3Q 81</td> </tr> <tr> <td>GFE Delivery starts</td> <td>1Q 81</td> <td></td> </tr> </tbody> </table> <p>PROJECT FINANCIAL PLAN (Amounts in Millions of Dollars)</p> <table border="1"> <thead> <tr> <th></th> <th>FY 80</th> <th>FY 81</th> <th>TOTAL PROGRAM</th> </tr> <tr> <th></th> <th>QTY</th> <th>QTY</th> <th>COST</th> </tr> </thead> <tbody> <tr> <td></td> <td>1.406</td> <td>.050</td> <td>1.456</td> </tr> </tbody> </table>					FY 80	FY 81	Engineering initiated	1Q 80	1Q 81	Production decision	1Q 80	3Q 81	1st Kit delivered	1Q 81	4Q 81	1st Installation	2Q 81	1Q 81	GFE Award	1Q 80	6 months	Production leadtime	12 months	3Q 81	GFE Delivery starts	1Q 81			FY 80	FY 81	TOTAL PROGRAM		QTY	QTY	COST		1.406	.050	1.456
	FY 80	FY 81																																					
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	QTY	QTY	COST																																				
	1.406	.050	1.456																																				

1 JAN 1979

SYSTEM: EH-1 DESCRIPTION: XM-130 General Purpose Dispenser

BASIS FOR COST ESTIMATE: (Amounts in Millions of Dollars)

	FY 80		FY 81		FY 82		TOTAL PROGRAM	
	QTY	COST	QTY	COST	QTY	COST	QTY	COST
A Kits	10	.026	18	.050			28	.076
System	33	.281					33	.281
STE 91	28	.033					28	.033
92	6	.020					6	.020
Non-recurring Installation (OMA)		1.046	(18)	(.056)	(10)	.033	(28)	1.046
Total		1.406		.050				1.456

METHOD OF IMPLEMENTATION: Airframe mod kits for EH-1H (18) and EH-1X (10) will be installed in the field by contractor/depot contact teams at selected CONUS and OCONUS locations, and will be combined with other modifications when practicable.

DELIVERY SCHEDULE:

	FY 80		FY 81		FY 82	
	1	2	1	2	1	2
Kits			2	4	6	3
						1

INSTALLATION SCHEDULE:

	2	6	10	3	3	2	2
Field Installation							

FY 80 BUDGET ESTIMATE

REPORTS CONTROL SYMBOL DD-COMP (AR) 1082	AIRCRAFT MODIFICATION	DATE																													
APA/2	MODIFICATION TITLE AND NO. 1-80-01-1784-A AN/APR-39(V)2 Radar Warning Receiver SSN AZ1200	1 JAN 1979																													
<p>AIRCRAFT AFFECTED: EH-1H/X</p> <p>DESCRIPTION/JUSTIFICATION: Type of Improvement - Operational Capability. The AN/APR-39(V) 2 Radar Warning System provides information to the aircraft crew concerning the radar environment about the aircraft. The system is capable of effective operation in a dense signal environment consisting of threat, enemy non-threat, and friendly emitters.</p> <p>DEVELOPMENT STATUS: The system is expected to complete DT/OT II in 1Q 79 and the DEVA IPR during the 2Q 79 with first production award in the 3Q 79. Procurement for the EH-1H/X aircraft will be a 1Q FY 80 add-on buy to the RV-1.</p> <p>MILESTONES:</p> <table border="0"> <tr> <td></td> <td>FY 80</td> </tr> <tr> <td>AN/APR-39(V)2 System Award</td> <td>1Q 80</td> </tr> <tr> <td>Production Lead Time</td> <td>12 months</td> </tr> <tr> <td>First Unit Delivery</td> <td>2Q 81</td> </tr> </table> <p>PROJECT FINANCIAL PLAN: (Amounts in Millions of Dollars)</p> <table border="0"> <tr> <td>FY 80</td> <td>FY 81</td> <td>TOTAL PROGRAM</td> </tr> <tr> <td>QTY</td> <td>COST</td> <td>QTY</td> </tr> <tr> <td>1.786</td> <td>.100</td> <td>1.886</td> </tr> </table> <p>BASIS FOR COST ESTIMATE: (Amounts in Millions)</p> <table border="0"> <tr> <td>FY 80</td> <td>FY 81</td> <td>TOTAL PROGRAM</td> </tr> <tr> <td>QTY</td> <td>COST</td> <td>QTY</td> </tr> <tr> <td>1.786</td> <td>.100</td> <td>1.886</td> </tr> </table> <p>Non-Recurring Contractual</p> <p>Government Engineering Support</p> <p>AN/APR-39(V)2 System</p> <p>Special Test Equipment</p> <p>Installation (OMA)</p> <p>Total</p> <table border="0"> <tr> <td>1.786</td> <td>.100</td> <td>1.886</td> </tr> </table> <p>1-137a- 1/22/79</p>				FY 80	AN/APR-39(V)2 System Award	1Q 80	Production Lead Time	12 months	First Unit Delivery	2Q 81	FY 80	FY 81	TOTAL PROGRAM	QTY	COST	QTY	1.786	.100	1.886	FY 80	FY 81	TOTAL PROGRAM	QTY	COST	QTY	1.786	.100	1.886	1.786	.100	1.886
	FY 80																														
AN/APR-39(V)2 System Award	1Q 80																														
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QTY	COST	QTY																													
1.786	.100	1.886																													
1.786	.100	1.886																													

SYSTEM: EH-1

1 JAN 1979 AN/APR-39(V)2
Page 2 of 2
PIP: 1-80-01-1784-A

METHOD OF IMPLEMENTATION: The AN/APR-39(V)2 processor will be issued to aviation units that have AN/APR(V)1's. The Radar Warning Receiver capability can then be upgraded by the addition of the (V)2 processor to the basic AN/APR39.

DELIVERY SCHEDULE AND INSTALLATION SCHEDULE: The airframe modification kit schedule is not applicable, because the AN/APR-39(V) 1 provisions on EH-1H/X aircraft will accept the (V)2 configuration.

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BU 18-10

FY 80 BUDGET ESTIMATE

AIRCRAFT MODIFICATIONS			EXHIBIT P-3		
APPROPRIATION APA/2			FY 80	DATE 1 JAN 1979	
AIRCRAFT MODEL 1	MODIFICATION NUMBER 2	DESCRIPTION OF MODIFICATION 3	NUMBER AIRCRAFT 4	UNIT COST 5	TOTAL COST (Thousands) 6
EH-60	1-79-01-2015-A	Blackhawk converted to EH-60A (Quick Fix)	1	14,489	14,489
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1 Apr 78

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1 Apr 78

2077

1 Apr 78

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CLASSIFICATION		AIRCRAFT MODIFICATION		DATE 1 JAN 1979																				
REPORTS CONTROL SYMBOL DD-COMP (AR) 1092																								
APPROPRIATION/BUDGET ACTIVITY APA/2		MODIFICATION TITLE AND NO. PIP NO. 1-79-01-2015A Quick Fix (EH-60A) SSN NO. A043																						
<p><u>AIRCRAFT AFFECTED:</u> Blackhawk converted to EH-60A</p> <p><u>DESCRIPTION/JUSTIFICATION:</u> This is a conversion program which will provide</p> <p style="text-align: center;">This program is contained in the Quick Fix RQC. The utilization of the Blackhawk aircraft was directed by DA.</p> <p><u>DEVELOPMENT STATUS:</u> Contract award is anticipated to be awarded during the 1st Qtr FY 80. Contractor and government testing should be completed by 2nd Qtr FY 82 with type classifications during 3rd Qtr FY 82.</p> <p><u>MILESTONES:</u> Same as development status since only one aircraft is being converted per this effort.</p> <p><u>PROJECT FINANCIAL PLAN:</u> (Amount in millions of dollars)</p> <table border="0" style="width: 100%;"> <tr> <td style="width: 20%;"></td> <td style="width: 10%; text-align: center;">FY 80</td> <td style="width: 10%; text-align: center;">FY 81</td> <td style="width: 10%; text-align: center;">FY 82</td> <td style="width: 10%; text-align: center;">TOTAL PROGRAM</td> </tr> <tr> <td></td> <td style="text-align: center;">Qty</td> <td style="text-align: center;">Qty</td> <td style="text-align: center;">Qty</td> <td style="text-align: center;">Qty</td> </tr> <tr> <td></td> <td style="text-align: center;">Cost</td> <td style="text-align: center;">Cost</td> <td style="text-align: center;">Cost</td> <td style="text-align: center;">Cost</td> </tr> <tr> <td></td> <td style="text-align: center;">1 14.489</td> <td style="text-align: center;">2.300</td> <td style="text-align: center;">.900</td> <td style="text-align: center;">1 17.689</td> </tr> </table>						FY 80	FY 81	FY 82	TOTAL PROGRAM		Qty	Qty	Qty	Qty		Cost	Cost	Cost	Cost		1 14.489	2.300	.900	1 17.689
	FY 80	FY 81	FY 82	TOTAL PROGRAM																				
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	Cost	Cost	Cost	Cost																				
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DELAY-C Form 1 May 76 2075		P-1 SHOPP LIST ITEM NO.		1-140 - 1/22/79																				
		PAGE NO.		811 19-2																				
				EXHIBIT A-3a																				

1 JAN 1979

PIP DESCRIPTION: Quick Fix

PIP NO: 1-79-01-2015A

SYSTEM: EH-60A

BASIS FOR COST ESTIMATE: (Amounts in millions of dollars)

PHASE II: Blackhawk

	FY 80	FY 81	FY 82
Engineering	4.689		.900
Data	2.323		
Tests	1.094	1.000	
Installation	.153		
Aircraft Survivability A	1.987		
GFE A	.959		
DF	.637		
CPE	.159		
Floats	1.755		
Test Equipment	.664		
Aux Power Unit	.069		
OMA A			
In-House Eng Spt	1.300		
TOTALS	14.489	2.300	.900 17.689

Since Quick Fix is a conversion program, OMA is not required for engineering or installation.

For prototyping effort only. Black box cost is not included.

Includes UYQ-10, UYH-1 and UYK-19.

METHOD OF IMPLEMENTATION: Planned to be a sole source contract with Electromagnetic Systems Laboratory incorporated in California.

Aircraft GFE Delivery and Installation schedule:

	FY 80				FY 81				FY 82				TOTALS
	1	2	3	4	1	2	3	4	1	2	3	4	
GFE Delivery													1
Induction													1
Completion													1

811 19-3

AIRCRAFT MODIFICATIONS						EXHIBIT P-3	
APPROPRIATION		FY		DATE			
P1200 FY80 Budget Estimate SSNAA0400		80		1 JAN 1979			
AIRCRAFT MODEL	MODIFICATION NUMBER	DESCRIPTION OF MODIFICATION	NUMBER AIRCRAFT	UNIT COST	TOTAL COST		

BN 21-1

1-142 - 1/22/79

Edition of 1 Apr 76, may be used.

CLASSIFICATION		FY80 BUDGET ESTIMATE																																											
REPORTS CONTROL SYMBOL DD-COMP (AR) 1092	AIRCRAFT MODIFICATION	DATE 1 JAN 1979																																											
APPROPRIATION/BUDGET ACTIVITY APA/2	MODIFICATION TITLE AND NO. 1-70-01-0001 SSNAA0400	Airframe/Defrost System																																											
<p>AIRCRAFT AFFECTED: OH-58A Helicopters</p> <p>DESCRIPTION/JUSTIFICATION: Type of Improvement - Safety. The purpose of this modification is to incorporate newly developed defrost system. Climatic laboratory testing and field testing indicate the existing bleed air heater system does not provide adequate defrost capabilities. A defrost system is needed which will clear the windshield in a reasonable length of time and keep it clear during flight. The Canadian system, which consist primarily of improved ducting and insulation, has been tested jointly by the US Army and Canadian Armed Forces Alberta, Canada. Previously developed and incorporated in OH-58C program, same PIP.</p> <p>DEVELOPMENT STATUS: Fully developed - In use with Canadian OH-58 Helicopters.</p>																																													
<p>MILESTONES:</p> <table border="1"> <thead> <tr> <th></th> <th>FY79</th> <th>FY80</th> <th>FY81</th> <th>FY82</th> </tr> <tr> <th></th> <th>EST DATE</th> <th>EST DATE</th> <th>EST DATE</th> <th>EST DATE</th> </tr> </thead> <tbody> <tr> <td>ECP Approval</td> <td>Dec 75</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Contract Award for Kits</td> <td>2Q FY79</td> <td>2Q FY80</td> <td>2Q FY81</td> <td>2Q FY82</td> </tr> <tr> <td>Leadtime</td> <td>12 Months</td> <td>12 Months</td> <td>12 Months</td> <td>12 Months</td> </tr> <tr> <td>Production Rate</td> <td>28 Months</td> <td>32 Months</td> <td>32 Months</td> <td>25 Months</td> </tr> <tr> <td>Kit Delivery Starts</td> <td>2Q FY80</td> <td>2Q FY81</td> <td>2Q FY82</td> <td>2QFY83</td> </tr> <tr> <td>Installation Completed</td> <td>2Q FY81</td> <td>2Q FY82</td> <td>2Q FY83</td> <td>2Q FY84</td> </tr> </tbody> </table>					FY79	FY80	FY81	FY82		EST DATE	EST DATE	EST DATE	EST DATE	ECP Approval	Dec 75				Contract Award for Kits	2Q FY79	2Q FY80	2Q FY81	2Q FY82	Leadtime	12 Months	12 Months	12 Months	12 Months	Production Rate	28 Months	32 Months	32 Months	25 Months	Kit Delivery Starts	2Q FY80	2Q FY81	2Q FY82	2QFY83	Installation Completed	2Q FY81	2Q FY82	2Q FY83	2Q FY84		
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<p>PROJECT FINANCIAL PLAN (\$ MILLIONS):</p> <table border="1"> <thead> <tr> <th></th> <th>FY79</th> <th>FY80</th> <th>FY81</th> <th>FY82</th> <th>TOTAL PROGRAM</th> </tr> <tr> <th></th> <th>QTY</th> <th>QTY</th> <th>QTY</th> <th>QTY</th> <th>QTY</th> </tr> <tr> <th></th> <th>AMT</th> <th>AMT</th> <th>AMT</th> <th>AMT</th> <th>AMT</th> </tr> </thead> <tbody> <tr> <td></td> <td>333</td> <td>1.583</td> <td>334</td> <td>1.700</td> <td>335</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td>1.735</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td>1350</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td>7.118</td> </tr> </tbody> </table>					FY79	FY80	FY81	FY82	TOTAL PROGRAM		QTY	QTY	QTY	QTY	QTY		AMT	AMT	AMT	AMT	AMT		333	1.583	334	1.700	335						1.735						1350						7.118
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1-143 - 1/22/79

SYSTEM: OH-58A PIP No. 1-70-01-0001 DESCRIPTION: Airframe/Defrost System

Exhibit P-3A
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1 JAN 1979

BASIS FOR COST ESTIMATES (\$ MILLIONS):

	FY79		FY80		FY81		FY82		TOTAL PROGRAM	
	QTY	AMT	QTY	AMT	QTY	AMT	QTY	AMT	QTY	AMT
Kits	333	1.583	334	1.700	385	2.100	298	1.735	1350	7.118
GFE										
Non-Recur										
Instl										
(OMA)			(333)	(.085)	(334)	(.085)	(385)	(.100)	(1350)	(.350)
TOTAL	333	1.583	334	1.700	385	2.100	298	1.735	1350	7.118

METHOD OF IMPLEMENTATION: OH-58A Contract/Depot Team

KIT DELIVERY SCHEDULE:

	FY80		FY81		FY82		FY83		FY84	
	1	2	3	4	1	2	3	4	1	2
Inductions	83	83	83	84	83	84	84	96	96	96
Completions										

INSTALLATION SCHEDULE:

	FY80		FY81		FY82		FY83		FY84	
	1	2	3	4	1	2	3	4	1	2
Inductions	83	83	83	84	83	84	84	96	96	96
Completions										

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1-144 - 1/22/79

FY80 BUDGET ESTIMATE		DATE 1 JAN 1979																																													
CLASSIFICATION	REPORTS CONTROL SYMBOL DD-COMP (AR) 1092	AIRCRAFT MODIFICATION																																													
	APPROPRIATION/BUDGET ACTIVITY APA/2	MODIFICATION TITLE AND NO. Improved Tail Rotor System, 1-79-01-0215 SSNA0400																																													
<p>AIRCRAFT AFFECTED: OH-58C Helicopter</p> <p>DESCRIPTION/JUSTIFICATION: Type of Improvement - Operational Capability. The purpose of this modification is to provide improved tail rotor control. Because of increased horse power, gross weight and the scout mission requires a higher rate of maneuverability than available in present system.</p> <p>DEVELOPMENT STATUS: Development contract for system to be awarded Sep 77.</p>																																															
<table style="width:100%; border-collapse: collapse;"> <tr> <th style="width: 40%;"></th> <th style="width: 10%; text-align: center;">FY79 EST DATE</th> <th style="width: 10%; text-align: center;">FY80 EST DATE</th> <th style="width: 10%; text-align: center;">FY81 EST DATE</th> <th style="width: 10%; text-align: center;">FY82 EST DATE</th> </tr> <tr> <td>MILESTONES:</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Contract Award</td> <td>2Q FY79</td> <td></td> <td></td> <td></td> </tr> <tr> <td>ECP Approval</td> <td>2Q FY79</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Contract Award Kits</td> <td></td> <td>2Q FY80</td> <td>2Q FY81</td> <td>2Q FY82</td> </tr> <tr> <td>Leadtime for Kits</td> <td></td> <td>12 Months</td> <td>12 Months</td> <td>12 Months</td> </tr> <tr> <td>Prod Rate for Kits</td> <td></td> <td>22 Month</td> <td>21 Month</td> <td>22 Month</td> </tr> <tr> <td>Kit Delivery Starts</td> <td></td> <td>2Q FY81</td> <td>2Q FY82</td> <td>2Q FY83</td> </tr> <tr> <td>Kit Installation Completed</td> <td></td> <td>1Q FY 82</td> <td>1Q FY83</td> <td>2Q FY83</td> </tr> </table>				FY79 EST DATE	FY80 EST DATE	FY81 EST DATE	FY82 EST DATE	MILESTONES:					Contract Award	2Q FY79				ECP Approval	2Q FY79				Contract Award Kits		2Q FY80	2Q FY81	2Q FY82	Leadtime for Kits		12 Months	12 Months	12 Months	Prod Rate for Kits		22 Month	21 Month	22 Month	Kit Delivery Starts		2Q FY81	2Q FY82	2Q FY83	Kit Installation Completed		1Q FY 82	1Q FY83	2Q FY83
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Kit Installation Completed		1Q FY 82	1Q FY83	2Q FY83																																											
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PROJECT FINANCIAL PLAN (\$ MILLIONS):																																															
Ampl/Ampl																																															

1-145 - 1/22/79

SYSTEM: OH-58A PIP No. 1-70-01-0001 DESCRIPTION: Airframe/Defrost System

Exhibit P-3A
Page 2 of 2

1 JAN 1979

BASIS FOR COST ESTIMATES (\$ MILLIONS) :

	FY79		FY80		FY81		FY82		TOTAL PROGRAM	
	QTY	AMT	QTY	AMT	QTY	AMT	QTY	AMT	QTY	AMT
Kits	333	1.583	334	1.700	385	2.100	298	1.735	1350	7.118
GFE										
Non-Recur										
Instl										
(OMA)			(333)(.085)		(334)(.085)		(385)(.100)		(1350)	(.350)
TOTAL	333	1.583	334	1.700	385	2.100	298	1.735	1350	7.118

METHOD OF IMPLEMENTATION: OH-58A Contract/Depot Team

KIT DELIVERY SCHEDULE:

	FY80				FY81				FY82				FY83				FY84			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Inductions	83	83	83	83	84	84	84	84	84	84	84	84	84	84	84	84	84	84	84	84
Completions																				

INSTALLATION SCHEDULE:

	FY80				FY81				FY82				FY83				FY84			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Inductions	83	83	83	83	84	84	84	84	84	84	84	84	84	84	84	84	84	84	84	84
Completions																				

RU 21-3

1-144 - 1/22/79

SYSTEM: OH-58C PIP No. 1-79-01-0215 DESCRIPTION: Improved Tail Rotor System

1 JAN 1979

BASIS FOR COST ESTIMATES (\$ MILLIONS):

	FY79		FY80		FY81		FY82		TOTAL PROGRAM	
	QTY	AMT	QTY	AMT	QTY	AMT	QTY	AMT	QTY	AMT
Kits	0	0	267	2.697	251	2.500	67	.640	585	5.837
Non-Recur		2.827								2.827
Instl										
(OMA)										
TOTAL		2.827	267	2.697	251	2.500	67	.640	585	8.664

METHOD OF IMPLEMENTATION: By contract incorporation/field incorporation.

KIT DELIVERY SCHEDULE:

FY81				FY82				FY83			
1	2	3	4	1	2	3	4	1	2	3	4
68	68	68	68	63	62	62	62	65	67		

INSTALLATION SCHEDULE:

FY81				FY82				FY83			
1	2	3	4	1	2	3	4	1	2	3	4
68	68	68	68	63	62	62	62	65	67		
Inductions											
Completions											

21 21-5

AIRCRAFT MODIFICATIONS					EXHIBIT P-3	
REPORTS CONTROL SYMBOL DD-COMP(AR) 1092						
APPROPRIATION: AEA/2 SSN: AA0700 Airborne Avionics		FY: 80		DATE: 1 JAN 1979		
AIRCRAFT MODEL	MODIFICATION NUMBER	DESCRIPTION OF MODIFICATION	NUMBER AIRCRAFT	UNIT COST	TOTAL COST (Thousands)	
1	2	3	4	5	6	
OH-58/AH-1S/AAH/ UH-1/UH-60/CH-47	1-80-07-01065	Antenna Coupler for AN/ARC-114 non-recurring			2,947	
			23-1	Total	2,947	
			1-147 - 1/22/79			

CLASSIFICATION		REPORTS CONTROL SYMBOL DD-COMP (AR) 1092		EQUIPMENT		MODIFICATION		DATE 1 JAN 1979	
APPROPRIATION/BUDGET ACTIVITY APA/2 FY 80		MODIFICATION TITLE AND NO. Antenna Coupler for AN/ARC-114 PIP 1-80-07-0106S							
<p>Models of Aircraft affected: OH-58, AH-1S, AAH, UH-1, UH-60, CH-47</p> <p>Description/Justification: Replace the present aircraft VHF-FM antenna and coupler on current scout, attack, utility and cargo aircraft with a variable power output amplifier (low, medium, high power), an efficient antenna coupler, an improved (or new) aircraft antenna and all associated interconnecting hardware. The applique (amplifier/coupler/antenna) will be solid state and employ rapid switching and selective filtering circuits and provide a high power of 40 watts effective radiated power across the band. Selectable lower power levels must be provided as well, to minimize interference with friendly and undesired intercept by enemy monitors. Voice interoperability with current VHF-FM equipment and with the future SINGARS-V or equal equipment will be provided. In addition, relative trade-offs such as rapid and silent tuning, guard channel monitoring, adaptability to ECM techniques will be investigated. The IFM portion of the NOE COMW System will provide a physical interface for the TACFIRE DMD cable/plug assembly in applicable aircraft. With the above product improvement, the Army will obtain a significant improvement (10-15 dB across the band) over the current tactical VHF-FM aircraft communications system. This will provide an increased communication reliability from aircraft to aircraft and aircraft to ground in the NOE scenario.</p> <p>Development status: A total package (PIP hardware, kits, and installation) competitive solicitation for a development/production effort is required.</p>									
Milestones		FY-80 EST DATE		FY-81 EST DATE		Future			
Initiate Engineering		1st Qtr							
IPR/Prod Decision									
First Prod Hdw Delivered									
First Kit Applied									
Last Prod Hdw Delivered						FY-84			
Last Kit Applied						FY-84			
Data Call Complete						FY-85			

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1-148 - 1/22/79 -

PROJECT FINANCIAL PLAN:

FY-78	FY-79	FY-80	FY-81	FY-82	Future	Total
Qty	Qty	Qty	Qty	Qty	Qty	Qty
Amt	Amt	Amt	Amt	Amt	Amt	Amt

2.947* .772* 3.333
 * This effort is for engineering. Modification kits will be covered under applicable Aircraft PIP's.

BASIS FOR COST ESTIMATES:

FY-78	FY-79	FY-80	FY-81	FY-82	Future	Total
Qty	Qty	Qty	Qty	Qty	Qty	Qty
Amt	Amt	Amt	Amt	Amt	Amt	Amt

SPARES.
 NON RECUR
 KITS
 ONA

TOTALS

METHOD OF IMPLEMENTATION:

KIT DELIVERY SCHEDULE: *

FY-	1	2	3	4	FY-	1	2	3	4
-----	---	---	---	---	-----	---	---	---	---

INSTALLATION SCHEDULE: *

FY-	1	2	3	4	FY-	1	2	3	4
-----	---	---	---	---	-----	---	---	---	---

INDUCTIONS
 COMPLETIONS

BU 23-3

1-149 - 1/22/79

CONSOLIDATED P-3a EXHIBITS

1-149a - 1/22/79

FY 80 Budget Estimate

CLASSIFICATION		MODIFICATION		DATE
REPORTS CONTROL SYMBOL DD-COMP (AR) 1092				1 JAN 1979
APPROPRIATION/BUDGET ACTIVITY		MODIFICATION TITLE AND NO.		
APA/2		NOE Communications		
AIRCRAFT AFFECTED: AH-1S, OH-58A/C, (AH-64 covered under SSN AZ3500)				
<p>DESCRIPTION/JUSTIFICATION: There is a urgent need for Army Aircraft to have reliable secured radio communications from 0 to 50 Km range while operating in the Nap-of-the-Earth (NOE) altitudes down to and including ground level. In a hostile Electronic Warfare environment successful mission accomplishment and aircraft survivability are enhanced when Line-of-Sight, and Non-Line-of-Sight Air-to-Air and Air-to-Ground communications are provided. To improve reliability, a combination of improved VHF-FM and HF-SSB Radio that will provide Nearly Vertical Incident Skywave (NVIS) for radio coverage where terrain masking obstructs Line-of-Light coverage was required. Requirements were established by SAG committee and further emphasized by DA and TRADOC.</p> <p>PROCUREMENT STATUS: The NOE program is in the final review phase for the draft Required Operational Capability (ROC). Upon completion of DA Staffing, ROC scheduled for DA approval by the end of July. Black Box procurement contract is scheduled for award in 1st Qtr FY 80.</p> <p>The following milestones for procurement of GFE are provided.</p>				
<p>DA Approved ROC</p> <p>Final Proc Data Package</p> <p>Solicitation & Eval.</p> <p>Award Multi Cont</p> <p>Production Delivery Start</p> <p>(Production Rate 100/Month)</p>		<p>FY 78</p> <p>4Q FY 78</p> <p>4Q FY 78</p> <p>2-4Q FY 79</p> <p>1Q FY 80</p> <p>4Q FY 81</p>	<p>FY 79</p> <p>FY 80</p> <p>FY 81</p>	
<p>PIP NO</p> <p>AH-1S 1-80-01-0985-B-I</p> <p>OH-58A/C 1-80-01-0285-A</p>		<p>HF</p> <p>Not Rqd.</p> <p>1-80-01-0286-A</p> <p>SSN</p> <p>AA0150</p> <p>AA0400</p>		
<p>MILESTONE FOR AIRFRAME:</p> <p>Initiate Engineering</p> <p>Production Decision</p> <p>First Production Hwd Del</p> <p>First Kit Applied</p> <p>Last Kit Applied</p>		<p>AH-1S</p> <p>3Q 80</p> <p>3Q 81</p> <p>4Q 81</p> <p>4Q 81</p> <p>4Q 85</p>	<p>OH-58C</p> <p>2Q 80</p> <p>4Q 80</p> <p>3Q 81</p> <p>3Q 81</p> <p>4Q 85</p>	<p>OH-58A</p> <p>2Q 80</p> <p>4Q 80</p> <p>4Q 82</p> <p>1Q 83</p> <p>4Q 85</p>
		<p>1-150 - 1/22/79</p>		
		BU 13	BU 15	BU 21

1 JAN 1979

PROJECT FINANCIAL PLAN: (Amounts in millions of dollars)

FY 80	FY 81	FY 82	FY 83	FY 84	FY 85	TOTAL PROGRAM
COST	COST	COST	COST	COST	COST	COST
6.402	16.039	3.478	1.222	1.223	0.739	29.103

BASIS FOR COST ESTIMATES:

	FY 80	FY 81	FY 82	FY 83	FY 84	FY 85	TOTAL
	Qty	Amt	Qty	Amt	Qty	Amt	Qty
GFE HF	100	2.686	325	9.251			425
IFM	200	.793	519	2.196			940
VRC()	12	.488	43	1.853			55
VRC() Install.	12	.024	43	.089			55
STE IFM	2	.036	7	.138			11
HF	1	.062	4	.258			5
KITS			810	.711			3808
Non-Recurring (OMA)		(.430)		(.574)			(1.689)
PEMA		2.313		1.543			5.259
Inst1 (OMA)		(1.376)		(1.376)			(6.146)
PEMA				.302			1.314
TOTAL PEMA		6.402		3.478			29.103
(OMA)		(.930)		(.095)			(7.835)

METHOD OF IMPLEMENTATION: Application of kits will be by Depots, modification lines and field units in accordance with formal TSARCOM formal application plan.

BASIS FOR COST ESTIMATES:

	FY 80	FY 81	FY 82	FY 83	FY 84	FY 85	FY 86	TOTAL
	Qty	Amt	Qty	Amt	Qty	Amt	Qty	Amt
IFM AIRFRAME PROTOTYPE								
NON-RECURR PEMA (OMA)								
AH-1S		(.415)		(.520)		(.027)		(1.052)
OH-58A		(.149)		(.014)		(.020)		(.183)
OH-58C		(.149)		(.014)		(.021)		(.184)
TOTAL		(0.713)		(0.548)		(0.068)		(1.419)

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Basis for Cost Estimates (Cont)									
	FY 80	FY 81	FY 82	FY 83	FY 84	FY 85	FY 86	TOTAL	
	Qty Amt	Qty Amt	Qty Amt	Qty Amt	Qty Amt	Qty Amt	Qty Amt	Qty	Amt
HF AIRFRAME PROTOTYPE									
NON-RECURR PEMA (OMA)									
OH-58A	(.108)	(.013)	(.013)						(.134)
OH-58C	(.109)	(.013)	(.014)						(.136)
TOTAL	(0.217)	(0.026)	(0.027)						(0.270)
IFM GFE									
NON-RECURR PEMA (OMA)									
AH-1S	.296	.367	.264						.927
OH-58A	.261	.323	.231						.815
OH-58C	.175	.214	.154						.543
TOTAL	0.732	0.904	0.649						2.285
HF GFE									
NON-RECURR PEMA (OMA)									
AH-1S	.927	.284	.442						1.653
OH-58A	.654	.355	.312						1.321
OH-58C	1.581	0.639	0.754						2.974
TOTAL									
GFE IFM									
AH-1S	15	.084	135	.800				150	.884
OH-58A	50	.198	185	.775				235	.973
OH-58C	150	.595	319	1.337	36	.380		555	2.312
TOTAL	200	0.793	519	2.196	221	1.180		940	4.169
GFE HF									
OH-58A	50	1.343	102	2.929				152	4.272
OH-58C	50	1.343	223	6.322				273	7.665
TOTAL	100	2.686	325	9.251				425	11.937
VRC () GROUND RADIO									
AH-1S	6	.244	18	.776				24	1.020
OH-58A	6	.244	25	1.077				31	1.321
OH-58C	12	0.488	43	1.853				55	2.341
TOTAL									

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RU 15

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1 JAN 1979

Basis for Cost Estimates (Cont.)

	FY 80	FY 81	FY 82	FY 83	FY 84	FY 85	FY 86	TOTAL
	Qty	Amt	Qty	Amt	Qty	Amt	Qty	Amt
VRC () INSTALLATION								
AH-1S	6	.012	18	.037				24
OH-58A	6	.012	25	.052				31
OH-58C	12	0.024	43	0.089				55
TOTAL								0.113
STE IFM								
AH-1S	2	.042						2
OH-58A	2	.038						2
OH-58C	3	.058	2	.040				7
TOTAL	2	0.036	7	0.138	2	0.040	11	0.214
STE HF								
OH-58A	2	.129						2
OH-58C	1	.062	2	.129				3
TOTAL	1	0.062	4	0.258			5	0.320
KITS								
AH-1S IFM	250	.420	184	.327	184	.345	184	.363
OH-58A IFM	85	.055	209	.141	294	.209	246	.184
HF	85	.034	209	.085	294	.125	230	.104
OH-58C IFM	195	.126			195	.140	195	.147
HF	195	.076			195	.084	195	.088
TOTAL	810	0.711	602	0.553	1162	0.903	1050	0.886
							184	0.383
INSTALL PEMA (OMA)								
AH-1S IFM	250	(.386)	184	.302	184	.319	184	.337
OH-58A IFM					250	(.524)	250	(.550)
HF					200	(.372)	200	(.391)
OH-58C IFM	280	(.528)			20	(.041)	285	(.628)
HF	280	(.462)			10	(.019)	10	(.020)
TOTAL	810	(1.376)	184	0.302	664	0.319	929	0.337
						(0.956)	(1.589)	(2.225)
GRAND TOTAL								
	6.402		16.039	3.478	1.222	1.223	0.739	29.103
	(0.930)		(1.950)	(0.095)	(0.984)	(1.619)	(2.257)	(7.835)

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20 15

NOE COMM

1 JAN 1979

KITS DELIVERY SCHEDULE:

	FY 80				FY 81				FY 82				FY 83				FY 84				FY 85			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
IFM					75	75	146	141	138	139	96	96	106	115	163	163	163	163	164	157	157	157	154	
HF					50	50	50	45	42	43	50	50	60	69	117	117	117	117	118	107	107	107	104	
TOTAL					125	125	196	186	180	182	146	146	166	184	280	280	280	280	282	264	264	264	258	

INSTALLATION SCHEDULE:

	FY 80				FY 81				FY 82				FY 83				FY 84				FY 85			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
IFM					100	154	154	154	152	109	109	109	107	181	181	181	176	130	130	130	128			
HF					50	50	60	60	60	50	50	50	60	50	50	50	60	50	50	50	177	177	177	172
TOTAL					150	204	214	214	212	159	159	159	167	231	231	231	236	307	307	307	307	307	307	300

NOTE: Float GFE for HF and IFM not included in this P-3A, but is covered by CERCOM Budget Documentation.

BU 17
BU 21

FY 80 Budget Estimate

CLASSIFICATION		REPORTS CONTROL SYMBOL DD-COMP (AR) 1092		MODIFICATION		DATE 1 JAN 1979
APPROPRIATION/BUDGET ACTIVITY APA/2		MODIFICATION TITLE AND NO. AN/ARC-164 Radio		SSN: See Below		
<p><u>Aircraft Affected:</u> OH-6, OH-53, UH-1, RV-1, OV-1, RU-21, U-21, CH-54, CH-47.* (AH-1 is covered in Cobra Modernization P-3a, EH-1X is covered in Quick Fix P-3a).</p>		<p><u>Description/Justification:</u> Type of Improvement - Operational Capability. Need exists to provide 25KHz channel spacing for the 225-400 MHz band of the frequency spectrum. Most Army aircraft use the AN/ARC-51BX radio to fulfill the UHF-AM radio requirement. However, the AN/ARC-51BX has 50 KHz channel spacing while a securable radio with 25 KHz spacing is now required. The AN/ARC-164 radio is securable and has 25KHz channel spacing and has been selected to replace the AN/ARC-51BX.</p>				
<p><u>Development Status:</u> The RT-1167/ARC-164 has been developed by the Air Force and has successfully completed first article testing by the Air Force. The Army has completed a three month service test by TECOM (April thru June 1976) with only minor problems detected.</p>		<p>The following milestones for procurement of GFE are provided. All contracts for the radio are through MTPR of funds to the Air Force.</p>				
<p><u>GFE Contract Award</u></p>		FY 77 & Prior Nov 74	FY 78	FY 79	FY 80	FY 81
<p>Initial Contract Leadtime (16 months) Production Rate (50 per month) Follow-on Reprourement Contracts Deliveries</p>		Apr 76	Feb 78 1Q 80	1Q 79 3Q 80	1Q 80 3Q 81	1Q 81 3Q 82
<p>*PIP NO.</p>		<p>SSN</p>				
<p>RU-21 1-78-01-0868 U-21 1-78-01-0868 RV-1 1-78-01-0866 OV-1 1-78-01-0866 CH-47C 1-79-01-0285 CH-54 1-79-01-0085 UH-1 1-78-01-0855 OH-6 NONE OH-58 NONE</p>		<p>AZ2900 AA0550 AZ2100 AZ3530 AA0250 AA0300 AA0600 AA0350 AA0400</p>				
<p>1-155 - 1/22/79</p>		<p>BU 20 BU 12 BU 14 BU 21 BU 10 BU 16 BU 22 BU 11 BU 17</p>				

Milestones for Airframe:

	UH-1	U-21	RU-21/JU-21	OV-1/RV-1	CH-47	CH-54
Contract Award for ECP	3/78	1/79	3/80	4/78	3/78	2/79
ECP Approval	2/79	2/80	3/81	4/79	2/79	1/81
Contract Award Kits		4/80	1/82	1/80	3/79	
Production Rate Kits		9/Mo	3/Mo	9/Mo	16/Mo	
Leadtime Kits		6/Mo	5/Mo	9/Mo	6/Mo	
1st Kit Delivery		2/81	2/82	3/80	2/80	
Installation Complete		2/82	4/82	2/82	4/81	

Note: The OH-58/OH-6 helicopters require no kits as these aircraft already have provisions to accept an AN/ARC-164.

Project Financial Plan: (Amounts in millions of dollars)

	FY 76	FY 77	FY 78	FY 79	FY 80	TOTALS
	1.630	1.604	.130	1.413	2.836	7.613

Basis for Cost Estimates: (Amounts in millions of dollars)

	FY 76	FY 77	FY 78	FY 79	FY 80	FY 81	FY 82	FY 83	TOTALS
	Qty	Amt	Qty	Amt	Qty	Amt	Qty	Amt	Qty
Non-Recur Kits	418	1.630	254	1.136	17	.130	116	.410	204
GFE									.469
Install(OMA)									2.367
Non-Recur (OMA)									(204)
TOTALS									(.386)
									(258)
									(0.584)
									(56)
									(.199)
									(0.142)
									(0.523)
									2.836
									518
									0.879
									1044
									6.266
									(518)
									(1.169)
									(2.555)
									7.613

Method of Implementation: Application of kits will be by depots, modification lines and field units at direct support level.

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BU 11 16 BU 21
BU 12 17 BU 22

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Basis for Cost Estimate (Cont)

	FY 76	FY 77	FY 78	FY 79	FY 80	FY 81	TOTALS
	Qty	Qty	Qty	Qty	Qty	Qty	Qty
	Amt	Amt	Amt	Amt	Amt	Amt	Amt
Non-Recur-PENA							
CH-47		.468					.468
Subtotal		.468					.468
Kits							
U-21					98		98
RU-21					13		13
OV-1				86	83		169
RV-1				(18)	(10)		(28)
OH-58				.020	.013		.033
CH-6							
CH-47							
Subtotal			210	.294			210
GFE			314	.410	204		518
U-21							
RU-21			3	.026	114		120
OV-1			4	.035	10		18
RV-1			5	.777	102		197
UH-1			1	.010	13		33
OH-58			4	.040			4
OH-6							
CH-47							
Subtotal			17	.130	239		227
Grand Totals			.130	1.003	2.367		9.920
				1.413	2.836		191
							710
							254
							1044
							1.136
							6.266
							7.613

Units provided at no cost from the Quick Fix program.

10 BU 14 BU 20
11 BU 16 BU 21
12 BU 17 BU 22

1 JAN 1979

Basis for Cost Estimate (Cont):

Installation (OMA)

	FY 78	FY 79	FY 80	FY 81	FY 82	TOTALS
	Qty	Amt	Qty	Amt	Qty	Amt
U-21				(54)	(44)	(98)
RU-21				(1)	(12)	(13)
OV-1			(86)	(83)	(169)	(378)
RV-1			(18)	(10)	(28)	(.062)
OH-58						
OH-6						
CH-54						
CH-47						

Totals

Non-Recur (OMA)

	FY 78	FY 79	FY 80	FY 81	FY 82	TOTALS
	Qty	Amt	Qty	Amt	Qty	Amt
U-21				(110)	(56)	(210)
RU-21				(258)	(518)	(.344)
OV-1						(.279)
RV-1				(.069)		(.582)
UH-1				(.073)		(.962)
OH-58						(.309)
OH-6						
CH-54						(.373)
CH-47						(.050)
Totals				(.142)		(2.555)

TOTALS

	FY 80 Qtrs	FY 81 Qtrs	FY 82 Qtrs	TOTALS
	1 2 3 4	1 2 3 4	1 2 3 4	
Kit Del. Schedule	49 51 53 51	104 80 82 48	90 75 75 75	518
Kit Instl Schedule	25 59 59 61	25 25 101 107	14 14 14 14	518

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CLASSIFICATION

REPORTS CONTROL SYMBOL
DD-COMP (AR) 1092

MODIFICATION

DATE 1 JAN 1979

APPROPRIATION/BUDGET ACTIVITY
APA/2

MODIFICATION TITLE AND NO.
AN/APR-39(V)1 Radar Warning Receiver

1-74-01-0824-I(UH-1), -0823-I(OH-58), -0825-I(CH-47),
-0826-(AH-1)

AIRCRAFT AFFECTED:

DESCRIPTION/JUSTIFICATION: Type of Improvement - Operational Capability. The AN/APR-39(V)1 Radar Warning Receiver (RWR) is a light weight, relatively low-cost system determined to be suitable for general helicopter application. It will provide warning of radar directed threats to allow appropriate evasive maneuvers and/or deployment of electronic countermeasures.

<u>DEVELOPMENT STATUS:</u>		
ECP Approval	OH-58C	Jan 76
	UH-1H	Apr 77
	AH-1	May 77
	CH-47C	Jun 78

<u>MILESTONES:</u>	<u>FY 78</u>	<u>FY 79</u>	<u>FY 80</u>	<u>FY 81</u>	<u>FY 82</u>	<u>FY 83</u>
Mod Kit Cont Awd	Feb 78	2Q FY 79				
Prod Lead Time	5 mo's	9 mo's				
Mod Kit Del Start	Jul 78	1Q FY 80				
Mod Kit Installation Start	Aug 78	3Q FY 80				
AN/APR-39(V)1 Sys Cont Awd	Jul 78	4Q FY 79		1Q FY 81		
Pdn Lead Time	14 mo's	21 mo's		19 mo's		
AN/APR-39(V)1 Sys Del Start	4Q 79	3Q FY 81		4Q FY 82		

PROJECT FINANCIAL PLAN: (Amounts in Millions of dollars)

[illegible]

CLASSIFICATION

P-1 SHOP LIST ITEM NO.	PAGE NO.
	1 of 4

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1 JAN 1979

BASIS FOR COST ESTIMATE: (Amounts in Millions of Dollars)

	<u>FY 77</u>		<u>FY 78</u>		<u>FY 79</u>		<u>TOTAL PROGRAM</u>	
	<u>QTY</u>	<u>COST</u>	<u>QTY</u>	<u>COST</u>	<u>QTY</u>	<u>COST</u>	<u>QTY</u>	<u>COST</u>
<u>UH-1</u>								
Kits			734	1.238	600	.719	1334	1.957
AN/APR-39(V)1 Sys	294	1.649	532	.854			826	2.503
STE				.348				.604
Trng Devices			26	.201			26	.201
Non Recurr				.317				.618
TOTAL		<u>2.206</u>		<u>2.958</u>		<u>.719</u>		<u>5.883</u>
<u>OH-58</u>								
Kits	585	.988	466	.532			1051	1.520
AN/APR-39(V)1 Sys	572	3.374	101	.162			673	3.536
STE		.224		.005				.229
Non-Recurr		.582						.582
TOTAL		<u>5.168</u>		<u>.699</u>				<u>5.867</u>
<u>AH-1</u>								
Kits	300	.891					300	.891
AN/APR-39(V)1 Sys	525	3.460			110	.926	988	5.161
STE		.397		.086		.022	353	.775
Non-Recurr		1.045		.029		.140		.505
TOTAL		<u>5.793</u>		<u>1.041</u>		<u>.937</u>		<u>1.214</u>
<u>CH-47</u>								
Kits	70	.490	140	.980			210	1.470
AN/APR-39(V)1 Sys	120	.326	83	.133	7	.059	210	.518
STE		.023		.004		.003		.030
Non-Recurr		.627		.091		.011		.729
TOTAL		<u>1.466</u>		<u>1.208</u>		<u>.073</u>		<u>2.747</u>

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	FY 78		FY 79		FY 80		FY 81		TOTAL PROGRAM	
	QTY	COST	QTY	COST	QTY	COST	QTY	COST	QTY	COST
<u>INSTALLATION (OMA):</u>										
UH-1H	24	.032	710	.948	300	1.303	300	1.382	1334	3.665
OH-58A/C	220	.468	246	.739					466	1.207
CH-47C			32	.232	178	1.289			210	1.521
AH-1S	230	1.027	57	.233					287	1.260
TOTAL	474	1.527	1045	2.152	478	2.592	300	1.381	2297	7.653

BASIS FOR COST ESTIMATE: (RECAP OF ALL SYSTEMS)

	FY 77		FY 78		FY 79		FY 80		FY 81		TOTAL PROGRAM	
	QTY	COST	QTY	COST	QTY	COST	QTY	COST	QTY	COST	QTY	COST
Kits	955	2.369	1340	2.750	600	.719					2895	5.838
AN/APR-39(V)1 Sys	1511	8.809	716	1.149	117	.985			353	.775	2697	11.718
STE		.900		.357		.089				.022		1.368
Trng Devices				.201								.201
Non-Recurr		2.555		.408		.040				.140		3.143
OMA Installations			(474)	(1.152)	(1045)	(2.152)	(478)	(2.592)	(300)	(1.382)	(2297)	(7.653)
TOTAL		14.633		4.865		1.833				.937		22.688

METHOD OF IMPLEMENTATION: Depot team will install A Kits on 287 AH-1Q/S aircraft. Remaining AH-1G fleet to be modified in conjunction with PIP 0479, 372 AH-1G/S Conversion/Modernization Program. OH-58A, UH-1 and CH-47C airframe provisions will be installed by depot contact teams at user locations. OH-58C installations will be installed during OH-58C conversion program, (585 aircraft) by contractor labor and is funded as part of that program.

KIT DELIVERY SCHEDULE:

	FY 78			FY 79			FY 80			FY 81			TOTAL
	1	2	3	1	2	3	1	2	3	1	2	3	
UH-1H													1334
OH-58A/C	50	112	93	125	154	260	50	150	150	100			1051
CH-47C				60	60	60	60	60	60	55			210
AH-1S	100	200		25	75	35							300
TOTAL	50	212	293	255	395	320	185	245	210	155			2895

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BU 15 BU 16 BU 21 BU 22

1 JAN 1979

KIT INSTALLATION SCHEDULE:

	FY 78				FY 79				FY 80				FY 81				TOTAL
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	
UH-1H				24	130	170	257	153	60	60	60	60	150	150			1334
OH-58A/C	105	100		65	215	151	60	60	60	60	60	60	55				1051
CH-47C								32	59	59	60						210
AH-1S	90	140			47		10		119	119	270	210	205	150			287
TOTAL	195	140	89	89	345	321	364	255	119	119	270	210	205	150			2882

FY 80 Budget Estimate

CLASSIFICATION		DATE 1 JAN 1979	
REPORTS CONTROL SYMBOL DD-COMP (AR) 1092	AIRCRAFT MODIFICATION		
APPROPRIATION/BUDGET ACTIVITY APA/2	MODIFICATION TITLE AND NO. Navigation Radio Receivers See Page 4		
<p>Aircraft Affected: OV-1, RV-1, U-21, RU-21, AH-1, CH-47, CH-54, OH-6, OH-58, UH-1, T-42, excludes ARN-123 on PIP 1-75-01-0835 Quick Fix.</p> <p>Description/Justification: Type of Improvement - Operational Capability and Safety. This modification provides Navigation Radio Receivers (Very High Frequency Omni Directional Range (VOR), Localizer (LOC), Glide Slope (GS), Distance Measuring Equipment (DME) and Marker Beacon (MB) compatible with Army Required Operational Capability (ROC), 6 Jun 73, Cards Reference Number 0542, Army Regulation AR 95-1 and Federal Aviation Administration (FAA) Instrument Flight Rule (IFR) requirements. Radio frequency congestion in West Germany and in high density areas in the United States makes it necessary to implement 50KHz split channel assignment to accommodate new facilities in these areas. Aircraft equipment which is not configured, by original design or modification, for the new channel arrangement cannot operate in the new environment.</p> <p>Development Status for Receivers: The new subsystem. DME and VOR/LOC/GS receivers are being procured essentially off-the-shelf commercial. No RDT&E program is being conducted. The following shows milestones for procurement of the receivers:</p> <p>DME Advanced Procurement Plan (APP) approved - 2nd Quarter, FY 75 Solicitations Issued - FY 77 Contract Award - Dec 77 Initial Production Delivery - 3Q FY 79 PAT Testing - Jul Sep 78</p> <p>VOR/LOC/GS Receivers: The APP is approved; 1st contract awarded May 75; Initial production delivery FY 77; DT III/OT III Testing Nov 76 thru May 77.</p> <p>Second Procurement planned for 2Q FY 79.</p>			

BLI 10 807 11 BLI 12 14 BLI 15 RU 16 17 BLI 20 21 BLI 22

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1 JAN 1979

MODIFICATION TITLE AND NO: Navigation Radio Receivers

MILESTONES FOR AIRFRAME:

Ecp Approval	FY 77 UH-1 (2Q)	FY 78 RV-1 (2Q) OV-1 (2Q) T-42 (4Q) RU-21 (3Q) U-21 (3Q)	FY 79 *UH-1 (2Q)	FY 80 CH-47 (2Q)
	U-21F (2Q)	AH-1 (2Q) OH-6 (3Q) OH-58 (1Q) CH-54 (2Q)		
Contract Award for Kits		UH-1 (3Q) OV-1 (4Q) RV-1 (4Q) RU-21 (4Q) U-21 (3Q) U-21F (3Q)	*UH-1 (3Q) T-42 (1Q)	CH-47 (2Q)
		AH-1 (4Q) OH-6 (4Q) OH-58 (4Q) CH-54 (4Q)		

* UH-1 DME

UH-1 R-1963

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MODIFICATION TITLE AND NO: Navigation Radio Receivers

PROJECT FINANCIAL PLAN: (Amounts in millions of dollars)

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* Quantities are omitted because of numerous and varying navigation equipment requirements by mission design and series of aircraft.

10 BU 11 BU 12 BU 14 BU 15 BU 16 BU 17 BU 20 BU 21 BU 22 BU

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1 3/4 1/73

MODIFICATION TITLE AND NO. Navigation Radio Receivers

	FY 74	FY 75	FY 76	FY 77	FY 78	FY 79	FY 80	FY 81	FY 82	FY 83	FY 84	TOTAL
OV-1	.131	.342	0	.166	.218	0	.024	.064	0	0	0	.945
RV-1	.060	.033	0	.042	.056	0	0	0	0	0	0	.191
U-21	.010	.163	.045	0	.069	0	0	0	0	0	0	.287
RU-21	0	.047	.016	0	0	.054	0	0	0	0	0	.177
AH-1	0	.003	2.327	0	0	0	0	0	0	0	0	2.330
CH-47	0	.001	.149	.033	.570	.060	0	0	0	0	0	0.813
CH-54	0	.113	0	0	.113	0	0	0	0	0	0	.226
OH-58	.780	.226	.252	.711	.424	0	0	0	0	0	0	3.210
UH-1	0	.268	2.289	1.934	.110	0	0	0	0	0	0	9.427
OH-6	.291	.151	.221	.068	0	.881	0	0	0	0	0	1.709
T-42	.189	0	.221	.435	.417	.394	0	0	0	0	0	1.656
	1.461	1.347	5.520	6.354	1.977	1.389	.024	.064	0	0	0	20.911

METHOD OF IMPLEMENTATION:

Modification will be performed at depot level and field level by both Army personnel and contractor teams.
Approved Product Improvement Proposals are:

A/C	PIP	SSN	A/C	PIP	SSN
OV-1	1-74-01-0807	AZ3530	AH-1	1-73-01-0424	AA0150
	1-74-01-0809	AZ3530			
RV-1	1-74-01-0807	AZ2100	CH-47	1-78-01-0886	AA0250
	1-74-01-0809	AZ2100	CH-54	1-75-01-0818	AA0300
			OH-58	1-74-01-0819	AA0400
			OH-6	1-74-01-0843	AA0350
U-21F	1-74-01-0806	AA0550	UH-1	1-75-01-0900	AA0600
U-21	1-74-01-0808	AA 550	UH-1	1-74-01-0842	AA0600
RU-21	1-74-01-0808	AZ2900	T-42	1-74-01-0805	AA0725

BU 10 BU 11 BU 12 BU 13 BU 14 BU 15 BU 16 BU 17 BU 18 BU 19 BU 20 BU 21 BU 22

1-166 - 1/22/79

1 JAN 1979

MODIFICATION TITLE AND NO: Navigation Radio Receivers

	FY 74	FY 75	FY 76	FY 77	FY 78	FY 79	FY 80	FY 81	FY 82	FY 83	FY 84	TOTAL
Non-Recurring	.236	.463	2.151	2.172	.820	.566	.060	-	-	-	-	6.468
AH-1	-	-	.691	-	-	.390	.060	-	-	-	-	.691
CH-47	-	-	.149	.033	-	-	-	-	-	-	-	.632
OH-58	.236	.085	-	.108	.008	-	-	-	-	-	-	.437
UH-1	-	.268	1.208	1.934	.669	.110	-	-	-	-	-	4.189
T-42	-	-	-	-	.132	.066	-	-	-	-	-	.198
OH-6	-	.110	.103	.097	-	-	-	-	-	-	-	.310
OV-1	-	-	-	.009	-	-	-	-	-	-	-	.009
PV-1	-	-	-	.002	-	-	-	-	-	-	-	.002
Kits	.010	.017	.338	-	3.303	.888	.964	.024	.064	-	-	5.608
OV-1	-	-	-	-	.218	.056	.024	.064	-	-	-	.306
RV-1	-	-	-	.007	.063	-	-	-	-	-	-	.063
U-21	.010	.006	.045	-	-	-	-	-	-	-	-	.124
RU-21	-	-	.016	-	-	.054	-	-	-	-	-	.070
AH-1	-	-	.026	-	-	-	-	-	-	-	-	.026
CH-47	-	-	-	-	-	-	-	-	-	-	-	-
CH-54	-	-	-	-	.113	-	-	-	-	-	-	.113
OH-58	-	.011	.251	-	.424	-	-	-	-	-	-	1.262
UH-1	-	-	-	.576	.2499	-	-	-	-	-	-	2.499
T-42	-	-	-	.221	.014	.131	-	-	-	-	-	.366
OH-6	-	-	-	-	.779	-	-	-	-	-	-	.779
GFE/CFE	1.215	.867	3.031	.603	2.231	.523	.365	-	-	-	-	8.835
OV-1	.131	.342	-	.157	-	-	-	-	-	-	-	.630
RV-1	.060	.033	-	.033	-	-	-	-	-	-	-	.126
AH-1	-	.003	1.610	-	-	-	-	-	-	-	-	1.613
CH-47	-	.001	-	-	.180	-	-	-	-	-	-	.181
CH-54	-	.113	-	-	-	-	-	-	-	-	-	.113
OH-58	.544	.130	.001	.603	.233	-	-	-	-	-	-	1.511
UH-1	-	-	1.081	-	1.658	-	-	-	-	-	-	2.739
T-42	.189	-	.221	-	.082	.337	.263	-	-	-	-	1.092
OH-6	.291	.041	.118	-	.068	-	.102	-	-	-	-	.620
U-21	-	.157	-	-	-	.006	-	-	-	-	-	.163
RU-21	-	.047	-	-	-	-	-	-	-	-	-	.047

TOTAL 1.461 1.347 5.520 2.775 6.354 1.977 1.389 .024 .064 - - - 20.911

BU 10 BU 11 BU 12 BU 13 BU 14 BU 15 BU 16 BU 17 BU 18 BU 19 BU 20 BU 21 BU 22

1-167 - 1/22/79

MODIFICATION TITLE AND NO: Navigation Radio Receivers

1 JAN 1979

KIT DELIVERY SCHEDULE:

[illegible]

INSTALLATION SCHEDULE:

FY 78				FY 79				FY 80				FY 81			
1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
8	11	339	339	339	339	407	407	410	370	370	370	12			

[illegible]

AN/ARN-123

	FY 74		FY 75		FY 76		FY 77		FY 78		FY 79		FY 80		FY 81	
	QTY	AVS	QTY	AVS	QTY	AVS	QTY	AVS	QTY	AVS	QTY	AVS	QTY	AVS	QTY	AVS
T-42	58	.161	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OH-58	302	.544	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OH-6	55	.147	-	-	45	.095	-	-	-	-	-	-	-	-	-	-
AH-1	-	-	-	-	389	1.040	-	-	-	-	-	-	-	-	-	-
CH-47	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TOTAL	415	.852	-	-	434	1.135	-	-	75	.232	-	-	-	-	-	-
TOTAL																
	FY 82		FY 83		TOTAL											
	QTY	AVS	QTY	AVS	QTY	AVS										
T-42	-	-	-	-	133	.393										
OH-58	-	-	-	-	557	1.080										
OH-6	-	-	-	-	100	.242										
AH-1	-	-	-	-	389	1.040										
CH-47	-	-	-	-	-	-										
TOTAL	-	-	-	-	-	-										

NON-RECURRING
AN/ARN-123 and R-1963

	FY 74		FY 75		FY 76		FY 77		FY 78		FY 79		FY 80	
	AVS	Ft. M	AVS	Ft. M	AVS	Ft. M	AVS	Ft. M	AVS	Ft. M	AVS	Ft. M	AVS	Ft. M
CH-47	-	-	-	-	.149	-	-	-	.370	.020	.030	.030	-	-
T-42	-	-	-	-	-	-	-	-	-	.050	-	-	-	-
UH-1 (R-1963)	-	-	.138	-	.500	-	-	-	-	-	-	-	-	-
OH-58	-	.236	.085	-	-	-	-	-	-	-	-	-	-	-
OH-6	-	-	.110	-	-	-	-	-	-	-	-	-	-	-
AH-1	-	-	-	-	.477	-	-	-	-	-	-	-	-	-
OV-1 (ARN-82)	-	-	-	-	-	-	-	-	.009	-	-	-	-	-
RV-1 (ARN-82)	-	-	-	-	-	-	-	-	.002	-	-	-	-	-
TOTAL	-	.236	.138	.195	.149	.977	-	2.172	.011	.370	.070	.030	.030	-
TOTAL														
	FY 81		FY 82		FY 83		TOTAL							
	AVS	Ft. M	AVS	Ft. M	AVS	Ft. M	AVS	Ft. M	AVS	Ft. M	AVS	Ft. M	AVS	Ft. M
CH-47 (ARN-123)	-	-	-	-	-	-	.549	.083	-	-	-	-	-	-
T-42	-	-	-	-	-	-	-	.050	-	-	-	-	-	-
UH-1 (R-1963)	-	-	-	-	-	-	.138	2.434	-	-	-	-	-	-
OH-58	-	-	-	-	-	-	-	.429	-	-	-	-	-	-
OH-6	-	-	-	-	-	-	-	.207	-	-	-	-	-	-
AH-1	-	-	-	-	-	-	-	.477	-	-	-	-	-	-
OV-1 (ARN-82)	-	-	-	-	-	-	-	.009	-	-	-	-	-	-
RV-1 (ARN-82)	-	-	-	-	-	-	-	.002	-	-	-	-	-	-
TOTAL	-	.000	-	.000	-	.000	.687	3.691	-	-	-	-	-	-

1-169 - 1/22/79

BU 10 BU 11 BU 12 BU 14 BU 15
BU 15 BU 23 BU 23 BU 23 BU 23

KITS (ARN-123 and R-1963)

1 JUN 1963

	FY 74	FY 75	FY 76	FY 77	FY 78	FY 79
	Qty	Qty	Qty	Qty	Qty	Qty
	Amt	Amt	Amt	Amt	Amt	Amt
T-42						
AH-1 (VOR)			32	2970		
UH-1 (R-1963)						
OV-1 (R-1963)				6		
RV-1 (R-1963)						
OV-1 (ARN-82)						
RV-1 (ARN-82)						
OH-58 (VOR)	5	.011	130	.576		
OH-6 (VOR)						
CH-54 (R-1963)						
COML U-21F 23	.010	.006				
U-21 (R-1963)			45			
RU-21 (R-1963)			11			
CH-47 (ARN-123)						
TOTAL	23	.010	218	3.153	510	.964

	FY 80	FY 81	FY 82	FY 83	FY 84	TOTAL
	Qty	Qty	Qty	Qty	Qty	Qty
	Amt	Amt	Amt	Amt	Amt	Amt
T-42						
AH-1 (VOR)						
UH-1 (R-1963)						
OV-1 (R-1963)						
RV-1 (R-1963)						
OV-1 (ARN-82)						
KV-1 (ARN-82)	11	.024	11			
OH-58 (VOR)						
OH-6 (VOR)						
CH-54 (R-1963)						
COML U-21F						
U-21 (R-1963)						
RU-21 (R-1963)						
CH-47 (ARN-123)						
TOTAL	11	.024	30	.064	4545	5.458

BU 10 BU 11 BU 12 BU 13 BU 14 BU 15 BU 16 BU 17 BU 18 BU 19 BU 20 BU 21 BU 22
1-170 - 1/22/79

1 JAN 1979

GFE SPECIAL TEST EQUIPMENT
FOR AN/ARM-123
AN/ARM-()

	FY 76	FY 77	FY 78	FY 79	FY 80	TOTAL
	Qty	Qty	Qty	Qty	Qty	Qty
	Amt	Amt	Amt	Amt	Amt	Amt
CH-47						
T-42						
UH-1						
AH-1	53	19	5		53	107
	.546	.193	.054		.180	.973
TOTALS	53	19	35		107	

Non-Recurring for AN/ARM-()

	FY 76	FY 77	FY 78	TOTAL
UH-1				
OH-58				
OH-6	.103	.008	.033	.144
AH-1	.214			.214
TOTALS	.317	.008	.033	.358

10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30

1-171 - 1/22/79

1 JAN 1979

Master P-3a Back-up for Navigation Receivers and Communications Equipment

	DME						TOTAL
	DME UNITS						
	FY 75	FY 76	FY 77	FY 78	FY 79		
	<u>Qty</u>	<u>Qty</u>	<u>Qty</u>	<u>Qty</u>	<u>Qty</u>	<u>Qty</u>	
	<u>Amt</u>	<u>Amt</u>	<u>Amt</u>	<u>Amt</u>	<u>Amt</u>	<u>Amt</u>	
UH-1		173 .632	57 .208		230 .840		
T-42		49 .221	18 .082		67 .303		
TOTAL		222 .853	75 .290		297 1.143		

NON-RECURRING FOR DME

	AVS	Ft.M	AVS	Ft.M	AVS	Ft.M	AVS	Ft.M	AVS	Ft.M
UH-1	.130	.130	.166	.166	.166	.166	.166	.166	.166	.166
T-42	.542	.542	.542	.542	.542	.542	.542	.542	.542	.542
TOTAL	.130	.130	.166	.166	.166	.166	.166	.166	.166	.166

DME INSTALLATION KITS

	Qty	Amt
UH-1	230	.150
TOTAL	230	.150

10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

1-172 - 1/22/79

Master P-3a Back-up for Navigation Receivers and Communication Equipment

AN/ARN-82

	FY 74	FY 75	FY 76	FY 77	FY 78	FY 79	FY 80	FY 81	FY 82	FY 83	FY 84	TOTAL
	Qty Amt	Qty Amt	Qty Amt	Qty Amt	Qty Amt	Qty Amt	Qty Amt	Qty Amt	Qty Amt	Qty Amt	Qty Amt	Qty Amt
OV-1	32 .108	44 .148	0 0	0 0	27 .117	0 0	0 0	0 0	0 0	0 0	0 0	103 .373
RV-1	6 .020	10 .033	0 0	0 0	6 .026	0 0	0 0	0 0	0 0	0 0	0 0	22 .079
TOTAL	38 .128	54 .181	0 0	0 0	33 .143	0 0	0 0	0 0	0 0	0 0	0 0	125 .452

R-1963/ARN

	FY 74	FY 75	FY 76	FY 77	FY 78	FY 79	FY 80	FY 81	FY 82	FY 83	FY 84	TOTAL
	Qty Amt	Qty Amt	Qty Amt	Qty Amt	Qty Amt	Qty Amt	Qty Amt	Qty Amt	Qty Amt	Qty Amt	Qty Amt	Qty Amt
RV-1	36 .040	0 0	0 0	0 0	5 .007	0 0	0 0	0 0	0 0	0 0	0 0	41 .047
OV-1	21 .023	150 .194	0 0	0 0	27 .040	0 0	0 0	0 0	0 0	0 0	0 0	198 .257
U-21	0 0	121 .117	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	121 .117
RU-21	0 0	48 .047	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	48 .047
CH-54	0 0	89 .104	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	89 .104
UH-1	0 0	0 0	465 .443	0 0	811 1.255	0 0	0 0	0 0	0 0	0 0	0 0	1276 1.698
TOTAL	57 .063	408 .462	465 .443	0 0	843 1.302	0 0	0 0	0 0	0 0	0 0	0 0	1773 2.270

ID-1347C

	FY 74	FY 75	FY 76	FY 77	FY 78	FY 79	FY 80	FY 81	FY 82	FY 83	FY 84	TOTAL
	Qty Amt	Qty Amt	Qty Amt	Qty Amt	Qty Amt	Qty Amt	Qty Amt	Qty Amt	Qty Amt	Qty Amt	Qty Amt	Qty Amt
AH-1	0 0	6 .003	31 .024	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	37 .027
OH-58(CFE)	0 0	0 0	130 *	0 0	455 *	195 *	0 0	0 0	0 0	0 0	0 0	780 *
OH-6	302 .144	63 .030	43 .023	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	408 .197
T-42	58 .028	0 0	0 0	0 0	0 0	64 .051	0 0	0 0	0 0	0 0	0 0	122 .079
TOTAL	360 .172	69 .033	204 .047	0 0	455 0	259 .051	0 0	0 0	0 0	0 0	0 0	1347 .303

* Cost of these indicators included in Kit costs.

ID-1351 Mod

	FY 74	FY 75	FY 76	FY 77	FY 78	FY 79	FY 80	FY 81	FY 82	FY 83	FY 84	TOTAL
	Qty Amt	Qty Amt	Qty Amt	Qty Amt	Qty Amt	Qty Amt	Qty Amt	Qty Amt	Qty Amt	Qty Amt	Qty Amt	Qty Amt
OH-58	0 0	0 0	3 .001	130 .067	455 .233	0 0	0 0	0 0	0 0	0 0	0 0	588 .301
OH-6	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	3 .011
TOTAL	0 0	0 0	3 .001	130 .067	455 .233	0 0	0 0	0 0	0 0	0 0	0 0	591 .312

1-173 - 1/22/79

BU 10 BU 11 12 13 14 15 16 17 18 19 20 21 22

NAVIGATION RADIO RECEIVERS

MISCELLANEOUS GFE ITEMS

FY 75	FY 76	FY 77	FY 78	FY 79	FY 80	FY 81	FY 82	FY 83	FY 84	TOTALS
Qty Amt	Qty Amt	Qty Amt	Qty Amt	Qty Amt	Qty Amt	Qty Amt	Qty Amt	Qty Amt	Qty Amt	Qty Amt

AT-741 Antenna

UH-1	185 .006	45 .002								230 .008
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AT-884 Antenna

CH-47	41 .001									41 .001
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AT-640 Antenna

CH-54	89 .009									89 .009
OH-58	130 *									130 *
OH-6				420 .065						420 .065
TOTAL 89,009	130 *			420 .065						509 .074

AS-1304 Antenna

OH-58	514 .130	130 *								644 .130
OH-6				149 .037						420 .105
TOTAL 514 .130	130 *			149 .037						1064 .235

* Cost of these antennas included in kit costs.

BU 10 811 11 21 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

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NAVIGATION RADIO RECEIVERS

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Exhibit P-3a

1 JAN 1979

MISCELLANEOUS GFE ITEMS

	FY 74	FY 75	FY 76	FY 77	FY 78	FY 79	FY 80	FY 81	FY 82	TOTAL
	Qty	Qty	Qty	Qty	Qty	Qty	Qty	Qty	Qty	Qty
	Amt	Amt	Amt	Amt	Amt	Amt	Amt	Amt	Amt	Amt
U-21F (Commercial)	5	5	0.050							6
					1	1	0.006			0.046

COMMERCIAL VHF-AM TRANSCEIVER

T-42	67	0.263								67	0.263
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BU 10 BU 11 BU 12 BU 13 BU 14 BU 15 BU 16 BU 17 BU 18 BU 19 BU 20 BU 21 BU 22

1-175 - 1/22/79

CLASSIFICATION		FY 80 Budget Estimate		DATE, 1 JAN 1979	
REPORTS CONTROL SYMBOL DD-COMP (AR) 1092		AIRCRAFT MODIFICATION			
APPROPRIATION/BUDGET ACTIVITY APA/2		MODIFICATION TITLE AND NO. RADAR ALTIMETER, AN/APN-209			
Aircraft Affected:		PIP No.	SSN's		
CH-47C		1-74-01-812	AA0250		
UH-1V (Medevac)		1-76-01-802	AA0600		
OH-58C		1-76-01-804	AA0400		
AH-1 (MOD S)		1-73-01-417	AA0150		
<p><u>Description/Justification:</u> Type of improvement - Operational, capability and safety. The radar altimeter will provide a continuous indication of the absolute altitude above the earth's surface. This system will assist the aircrew in assuring terrain clearance during low level operations, instrument let-downs, fire support, medevac hovering in dust with sling loads, surveillance and rescue missions during periods of reduced visibility, daylight and darkness. The repeater unit ID-1917 is required for the CH-47 and UH-1 helicopters to provide both pilot and co-pilot with a display.</p> <p><u>Development Status:</u> Two contractors had been selected for technical evaluation. One of the two contractors has since dropped out of the competition. Fifteen systems from each contractor were delivered in Nov 74. DI II/OT II testing is complete. First production contract was awarded June 1976. Second year buy was implemented Sep 77.</p> <p>The following shows milestones for procurement of the GFE which is a three year (multi-year) buy of 2000 plus in option with a follow-on competitive contract for the remainder.</p>					
GFE		FY 75	FY 76	FY 77	FY 78
Contract Award					
1st Year (359)			Jun 76		
2nd Year (1088)				4Q 77	
3rd Year (553)					4Q 78
Production Delivery Starts					
1st Year - Begin 15 & build up to 75/mo				3Q 77	
2nd Year - Begin 88 and build up to 100/mo					4Q 78
3rd Year - 100 mo					4Q 79
<p>DT II/OT II Tests - March FY 75 - August FY 76 - Completed</p> <p>DT III/OT/III Tests - Rqmt waived by TECOM/TRADOC</p>					
DRIVE-C Form 1 Apr 78		2075		Edition of 1 May 76, may be used.	
P-1 SHOPP LIST ITEM NO.		PAGENO.		CLASSIFICATION	
1-176 - 1/22/79		BU 15		BU 16 BU 21 BU 22	

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Page 2 of 4

Modification Title and No: Radar Altimeter, AH/APN-209
Milestones for Airframe:

	FY 76	FY 77	FY 78	FY 79
Contract Award for ECP				
ECP Approval			3Q 78	1Q (AH-1)
Contract Award Kits			3Q 78	1Q 79
Production Rate Kits - AH-1 25/mo				
CH-47 25/mo				
OH-58 50/mo				
UH-1 20/mo				

Lead Time Kits - (5-12mo)
1st Kit Delivery Starts
Installation Complete
(Est 4Q FY 81)

1Q 77 (OH-58)

4Q 79

Project Financial Plan:

FY 76	FY 76T	FY 77	FY 78	FY 79	FY 80	Total Program
Cost	Cost	Cost	Cost	Cost	Cost	Cost
3.079	2.219	5.500	5.113	.286		16.197

Basis for Cost Estimates: (Amounts in millions of dollars)

	FY 76	FY 76T	FY 77	FY 78	FY 79	FY 80	FY 81	TOTAL
	Qty	Cost	Qty	Cost	Qty	Cost	Qty	Cost
Kits	130	.033	260	.100	200	.286		1315 1.083
CPE*	312/140	2.363	343	1.788	735/352	4.794	701	3.406
Non-Recur(OMA)			(.242)	(.173)	(.071)			2091/492 12.351
Non-Recur	.683	.431	.606	1.043	(.080)			(.566)
Instl								2.547
PEMA								
(OMA)								
TOTAL PEMA	3.079	2.219	5.500	264 ***	200 ***	751 (1.016)	70 (.111)	1285 (1.127)
								16.197

* Remote indicator required with the radar altimeter on CH-47 and UH-1. Under the Qty column, the top number represents Quantity of radar altimeters and the bottom the quantity of remote indicators.

Method of Implementation: Application of kits will be by depot and field units at direct support level.

1	OH-58	2Q 76	UH-1	2Q 77
	CH-47	1Q 78	AH-1	3Q 77

RU 10 15 21 22

Modification Title and No. Radar Altimeter. AN/APN-209
 Basis for Cost Estimate: (Amounts in millions)

Exhibit P-3a
 Page 3 of 4

1 JAN 1973

	FY 76		FY 77		FY 78		FY 79		FY 80		FY 81		TOTAL PROGRAM	
	Qty	Amt	Qty	Amt	Qty	Amt	Qty	Amt	Qty	Amt	Qty	Amt	Qty	Amt
Non-recur														
AVRADCOM PEMA (OMA)														
AH-1														
UH-47C		.216		(.217)		(.060)		(.012)		(.013)				(.302)
UH-1H						(.011)		(.057)						(.057) .216
UH-58				(.025)		(.015)		(.011)						(.180)
SUB TOTAL		.216												(.040)
														.216
ECOM Non-recur														
AH-1		.187		.033		1.043								1.282
UH-47C		.159		.045										.333
UH-1H		.121		.353										.338
UH-58		.467		.431										.594
SUB TOTAL														2.547
Kits														
AH-1**														
UH-47C														
UH-1H														
UH-58		.130 .033		.260 .100		.054								
SUB TOTAL		.130 .033		.260 .100		.664		.200 .286						1.083
GFE														
AH-1				198 1.090		701 3.406								899 4.496
UH-47*	112/85	.942		15150/177 1.169										262/262 2.111
UH-1H	75/55	.620		155/175 1.192										230/230 1.812
UH-58	125 .801	343 1.788		232 1.343										700 13.932
SUB TOTAL	312/140 2.363	343 1.788		735/352 4.794		701 3.406								2091/492 12.351
Instl (OMA)														
AH-1														
UH-47														
UH-1														
UH-58***														
SUB-TOTAL		3.079		2.219		5.500		.286						
GRAND TOTAL														

* Remote indicator required with the radar altimeter on those aircraft. Under the Qty column, the top number represents quantity of radar altimeters and the bottom the quantity of remote indicators.

** Only 290 field kits are required, remainder receive during MOD program.

*** OH-58C Installation funds shown in separate OH-58C P-3a. 1-75-01-0709

1-178 - 1/22/79

311 15 BU 10 AU 21 BU 23

Modification Title and No. Radar Altimeter, AN/APN-209

1 JAN 1973

Kit Delivery Schedule:

	FY 77			FY 78			FY 79			FY 80			FY 81		
1	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
	11	45	74	114	114	114	75	197	183	197	228	60	1	2	3

Installation Schedule:

	FY 77			FY 78			FY 79			FY 80			FY 81		
	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
				0	0	132	50	50	50	187	188	188	35	35	35

1-179 - 1/22/79

BU 15 BU 15 BU 21 BU 22

AIRCRAFT PROCUREMENT, ARMY

Section 9

Flight Simulator Procurement Summary

1-180 - 1/22/79

FY 80 BUDGET ESTIMATE

1 JAN 1979

FLIGHT SIMULATORS PROCUREMENT PROGRAM

APPROPRIATION: Aircraft Procurement, Army

Weapon System	Type	FY 79 & Prior		FY 80		FY 81		FY 82		FY 83		FY 84		Cost to Complete		Total Cost	
		Qty	Amt	Qty	Amt	Qty	Amt	Qty	Amt	Qty	Amt	Qty	Amt	Qty	Amt	Qty	Amt
UH-1 (2B24) (SSNA09500)	FS	21	/ 62.4	-	-	-	-	-	-	-	-	-	-	-	-	21	/ 62.4
CH-47 (2B31) (SSNA09100)	FS	1	/ 8.0	2	/ 16.8	2	/ 19.1	-	-	-	-	-	-	-	-	5	/ 43.9
AH-1 (2B33) (SSNA09300)	FWS	2	/ 21.8	-	-	1	/ 10.7	-	-	-	-	-	-	-	-	3	/ 32.5
UH-60 (2B38) (SSNA09400)	FS	-	-	-	-	2	/ 24.6	2	/ 26.9	1	/ 13.9	3	/ 46.4	-	-	8	/ 111.8
AH-64 (2B40) (SSNA09000)	FWS	-	-	-	-	-	-	-	-	-	-	2	/ 42.9	-	-	2	/ 42.9
GRAND TOTAL		92.2	16.8	54.4	26.9	13.9	89.3	293.5									

DISTRIBUTION

HAC
SAC
HASC
SASC
HBC
SBC
CBO
ASD(C)
ASD(DFOISR)
ASA(IL&FM)
ASA(RDA)
ASA(M&RA)
DACS-DC
DACS-BMZ-A
DACS-DP
DACA-BUB
DACA-BUS
DACA-BUR
DACA-BU
DAAG-OPZ-D
DAAC-RM-BB
OCLL

DAMI
DAMO
DAPE
DAMA-PP
DAMA-PPP
DAMA-PPC
DAMA-PPR
DAMA-PPT
DAMA-WS
DAMA-WSA
DAMA-WSM
DAMA-WSW
DAMA-CS
DAMA-CSC-B
DAMA-CSM
DAMA-CSS
DALO
DAEN-ZCE
DAMH
NGB
DAAR
DASG
NAVY
AIR FORCE

DEPARTMENT OF THE ARMY

JUSTIFICATION OF ESTIMATES FOR FISCAL YEAR 1980

SUBMITTED TO CONGRESS

JANUARY 1979



PART 2 OF 5 PARTS
(MISSILES)

PROCUREMENT

PROGRAMS

AIRCRAFT

MISSILES

WEAPONS & TRACKED COMBAT VEHICLES

AMMUNITION

OTHER

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DEPARTMENT OF THE ARMY
Office of the Deputy Chief of Staff
For
RESEARCH, DEVELOPMENT AND ACQUISITION

AD-A065 299

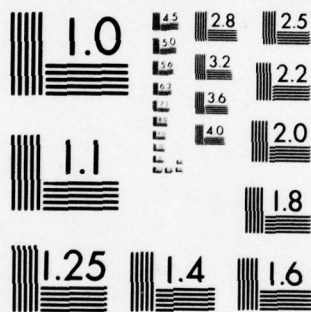
DEPUTY CHIEF OF STAFF FOR RESEARCH DEVELOPMENT AND AC--ETC F/6 5/1
DEPARTMENT OF THE ARMY JUSTIFICATION OF ESTIMATES FOR FISCAL YE--ETC(U)
JAN 79

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MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS-1963-A

22 January 1979

DEPARTMENT OF THE ARMY
PROCUREMENT APPROPRIATIONS

Justification of Estimates for Fiscal Year 1980, 81 (Auth only)

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Department of the Army
Missile Procurement, Army

Justification of Estimates for Fiscal Year 1980, 1981

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MISSILE PROCUREMENT, ARMY

Section 1

Budget Appendix Extract

Language

Program and Financing Schedule

Object Classification Schedule

APPROPRIATION LANGUAGE

For construction, procurement, production, modification, and modernization of missiles, equipment, including ordnance, ground handling equipment, spare parts, and accessories therefor; specialized equipment and training devices; expansion of public and private plants, including the land necessary therefor, without regard to section 4774, title 10, United States Code, for the foregoing purposes, and such lands and interests therein, may be acquired, and construction prosecuted thereon prior to approval of title as required by section 355, Revised Statutes, as amended; and procurement and installation of equipment appliances, and machine tools in public and private plants; reserve plants and Government and contractor-owned equipment layaway; and other expenses necessary for the foregoing purposes; [~~\$736,900,000~~] \$1,250,500,000 to remain available for obligation until September 30, [1981] 1982. (1)
(2)

(10 U.S.C. 2353, 3012, 4531, 4532, 31 U.S.C. 649c; Department of Defense Appropriation Act, 1979; additional authorizing legislation to be proposed.)

EXPLANATION OF LANGUAGE CHANGES

- (1) To change the amount of appropriation requested for FY 1980.
- (2) To change the obligation expiration date for the FY 1980 program.

Army

Missile Procurement, Army

22 JAN 79

Program and Financing (in thousands of dollars)

Identification code	21-2032-0-1-051	Budget plan (amounts for procurement actions programmed)			Obligations		
		1978 actual	1979 est.	1980 est.	1978 actual	1979 est.	1980 est.
Program by activities:							
Direct:							
2.	Other missiles	395,042	616,400	1,020,700	385,750	583,511	971,442
3.	Modification of missiles	44,150	69,800	78,700	47,248	64,940	80,690
4.	Spare and repair parts	56,807	29,200	17,500	57,600	43,888	100,527
5.	Support equipment and facilities	66,698	21,500	33,600	66,792	26,509	36,528
	Total direct	562,697	736,900	1,250,500	537,418	720,848	1,189,187
	Reimbursable program (total)	460,416	496,000	376,300	462,132	377,152	509,813
10.00	Total	1,043,113	1,232,900	1,766,800	1,000,551	1,098,000	1,699,000
Financing:							
Offsetting collections from:							
11.00	Federal funds	-94,072	-68,100	-72,200	-98,384	-63,782	-72,200
13.00	Trust funds	-387,522	-427,900	-443,100	-445,040	-423,700	-444,100
14.00	Non-federal sources	-167			79,258		
21.40	Unobligated balance available, start of year:						
	For completion of prior year budget plans						
	Available to finance new budget plans	-15,000					
	Reprogramming from or to prior year budget plans	-42,144					
22.40	Unobligated balance transferred from other accounts	-7,132			-147,349	-130,212	-256,594
23.40	Unobligated balance transferred to other accounts	21,679			-15,030		
24.40	Unobligated balance available, end of year:						
	For completion of prior year budget plans	35,465			130,212	256,594	324,394
25.00	Unobligated balance lapsing	554,220	736,900	1,250,500	554,220	736,900	1,250,500
Budget authority							
40.00	Appropriation	536,883	736,900	1,250,500	536,883	736,900	1,250,500
42.00	Transferred from other accounts	17,337			17,337		
43.00	Appropriation (adjusted)	554,220	736,900	1,250,500	554,220	736,900	1,250,500
Relation of obligations to outlays:							
71.00	Obligations incurred, net	536,345			536,345	610,518	1,182,700
72.40	Obligated balance, start of year	504,601			504,601	572,878	901,893
74.40	Obligated balance, end of year	-572,878			-572,878	-501,890	-1,538,496
77.00	Adjustments in expired accounts	50,531			50,531		
90.00	Outlays	417,798			417,798	281,500	545,100

Army

Missile Procurement, Army

22 JAN 79

Object Classification (in thousands of dollars)

Identification code	21-2032-0-1-051	1978 actual	1979 est.	1980 est.
Direct obligations:				
22.0 Transportation of things		948		
25.0 Other services:				
Other		96,900	118,328	214,700
26.0 Supplies and materials		377,971	450,210	815,652
31.0 Equipment		61,600	152,310	153,835
Total direct obligations		537,419	720,848	1,189,187
		=====	=====	=====
Reimbursable obligations:				
22.0 Transportation of things		800		
25.0 Other services:				
Other		91,100	79,900	103,700
26.0 Supplies and materials		312,832	279,018	361,700
31.0 Equipment		58,400	13,234	44,413
Total reimbursable obligations		463,132	377,152	509,813
		=====	=====	=====
Total obligations		1,000,551	1,098,000	1,699,000

22 JAN 79

Missile Procurement, Army

Program and Financing (in thousands of dollars)

1976 Fiscal year program
Obligations

Budget plan (amounts for
procurement actions programmed)

1978 actual 1979 est. 1980 est. 1978 actual 1979 est. 1980 est.

Identification code 21-2032-0-1-051

Program by activities:

- Direct:
- 2. Other missiles
- 3. Modification of missiles
- 4. Spares and repair parts
- 5. Support equipment and facilities

604	.....	.....	.....	.....	.....
1,468	.....	.....	.....	.....	.....
2,513	.....	.....	.....	.....	.....
4,637	.....	.....	.....	.....	.....
9,224	.....	.....	.....	.....	.....

10.00 Total

Financing:

Offsetting collections from:

- 11.00 Federal funds
- 13.00 Trust funds
- 14.00 Non-federal sources
- 21.40 Unobligated balance available, start of year:
- For completion of prior year budget plans
- Reprogramming from or to prior year budget plans
- Unobligated balance transferred to other accounts
- 23.40 Unobligated balance lapsing
- 25.00 Budget authority

-687	.....	.....	.....	.....	.....
-17,260	.....	.....	.....	.....	.....
37,780	.....	.....	.....	.....	.....
-59,163	.....	.....	.....	.....	.....
6,158	.....	.....	.....	.....	.....
23,948	.....	.....	.....	.....	.....

22 JAN 79

Program and Financing (in thousands of dollars)

1974 Fiscal year program

Identification code 21-2032-0-1-051

Collections

	1978 actual	1979 est.
1. Total	100.0	100.0
2. Government	10.0	10.0
3. Non-government	90.0	90.0
4. Total	100.0	100.0
5. Government	10.0	10.0
6. Non-government	90.0	90.0
7. Total	100.0	100.0
8. Government	10.0	10.0
9. Non-government	90.0	90.0
10. Total	100.0	100.0
11. Government	10.0	10.0
12. Non-government	90.0	90.0
13. Total	100.0	100.0
14. Government	10.0	10.0
15. Non-government	90.0	90.0
16. Total	100.0	100.0
17. Government	10.0	10.0
18. Non-government	90.0	90.0
19. Total	100.0	100.0
20. Government	10.0	10.0
21. Non-government	90.0	90.0
22. Total	100.0	100.0
23. Government	10.0	10.0
24. Non-government	90.0	90.0
25. Total	100.0	100.0
26. Government	10.0	10.0
27. Non-government	90.0	90.0
28. Total	100.0	100.0
29. Government	10.0	10.0
30. Non-government	90.0	90.0
31. Total	100.0	100.0
32. Government	10.0	10.0
33. Non-government	90.0	90.0
34. Total	100.0	100.0
35. Government	10.0	10.0
36. Non-government	90.0	90.0
37. Total	100.0	100.0
38. Government	10.0	10.0
39. Non-government	90.0	90.0
40. Total	100.0	100.0
41. Government	10.0	10.0
42. Non-government	90.0	90.0
43. Total	100.0	100.0
44. Government	10.0	10.0
45. Non-government	90.0	90.0
46. Total	100.0	100.0
47. Government	10.0	10.0
48. Non-government	90.0	90.0
49. Total	100.0	100.0
50. Government	10.0	10.0
51. Non-government	90.0	90.0
52. Total	100.0	100.0
53. Government	10.0	10.0
54. Non-government	90.0	90.0
55. Total	100.0	100.0
56. Government	10.0	10.0
57. Non-government	90.0	90.0
58. Total	100.0	100.0
59. Government	10.0	10.0
60. Non-government	90.0	90.0
61. Total	100.0	100.0
62. Government	10.0	10.0
63. Non-government	90.0	90.0
64. Total	100.0	100.0
65. Government	10.0	10.0
66. Non-government	90.0	90.0
67. Total	100.0	100.0
68. Government	10.0	10.0
69. Non-government	90.0	90.0
70. Total	100.0	100.0
71. Government	10.0	10.0
72. Non-government	90.0	90.0
73. Total	100.0	100.0
74. Government	10.0	10.0
75. Non-government	90.0	90.0
76. Total	100.0	100.0
77. Government	10.0	10.0
78. Non-government	90.0	90.0
79. Total	100.0	100.0
80. Government	10.0	10.0
81. Non-government	90.0	90.0
82. Total	100.0	100.0
83. Government	10.0	10.0
84. Non-government	90.0	90.0
85. Total	100.0	100.0
86. Government	10.0	10.0
87. Non-government	90.0	90.0
88. Total	100.0	100.0
89. Government	10.0	10.0
90. Non-government	90.0	90.0
91. Total	100.0	100.0
92. Government	10.0	10.0
93. Non-government	90.0	90.0
94. Total	100.0	100.0
95. Government	10.0	10.0
96. Non-government	90.0	90.0
97. Total	100.0	100.0
98. Government	10.0	10.0
99. Non-government	90.0	90.0
100. Total	100.0	100.0

	1978 actual	1979 est.
1. Total	100.0	100.0
2. Government	10.0	10.0
3. Non-government	90.0	90.0
4. Total	100.0	100.0
5. Government	10.0	10.0
6. Non-government	90.0	90.0
7. Total	100.0	100.0
8. Government	10.0	10.0
9. Non-government	90.0	90.0
10. Total	100.0	100.0
11. Government	10.0	10.0
12. Non-government	90.0	90.0
13. Total	100.0	100.0
14. Government	10.0	10.0
15. Non-government	90.0	90.0
16. Total	100.0	100.0
17. Government	10.0	10.0
18. Non-government	90.0	90.0
19. Total	100.0	100.0
20. Government	10.0	10.0
21. Non-government	90.0	90.0
22. Total	100.0	100.0
23. Government	10.0	10.0
24. Non-government	90.0	90.0
25. Total	100.0	100.0
26. Government	10.0	10.0
27. Non-government	90.0	90.0
28. Total	100.0	100.0
29. Government	10.0	10.0
30. Non-government	90.0	90.0
31. Total	100.0	100.0
32. Government	10.0	10.0
33. Non-government	90.0	90.0
34. Total	100.0	100.0
35. Government	10.0	10.0
36. Non-government	90.0	90.0
37. Total	100.0	100.0
38. Government	10.0	10.0
39. Non-government	90.0	90.0
40. Total	100.0	100.0
41. Government	10.0	10.0
42. Non-government	90.0	90.0
43. Total	100.0	100.0
44. Government	10.0	10.0
45. Non-government	90.0	90.0
46. Total	100.0	100.0
47. Government	10.0	10.0
48. Non-government	90.0	90.0
49. Total	100.0	100.0
50. Government	10.0	10.0
51. Non-government	90.0	90.0
52. Total	100.0	100.0
53. Government	10.0	10.0
54. Non-government	90.0	90.0
55. Total	100.0	100.0
56. Government	10.0	10.0
57. Non-government	90.0	90.0
58. Total	100.0	100.0
59. Government	10.0	10.0
60. Non-government	90.0	90.0
61. Total	100.0	100.0
62. Government	10.0	10.0
63. Non-government	90.0	90.0
64. Total	100.0	100.0
65. Government	10.0	10.0
66. Non-government	90.0	90.0
67. Total	100.0	100.0
68. Government	10.0	10.0
69. Non-government	90.0	90.0
70. Total	100.0	100.0
71. Government	10.0	10.0
72. Non-government	90.0	90.0
73. Total	100.0	100.0
74. Government	10.0	10.0
75. Non-government	90.0	90.0
76. Total	100.0	100.0
77. Government	10.0	10.0
78. Non-government	90.0	90.0
79. Total	100.0	100.0
80. Government	10.0	10.0
81. Non-government	90.0	90.0
82. Total	100.0	100.0
83. Government	10.0	10.0
84. Non-government	90.0	90.0
85. Total	100.0	100.0
86. Government	10.0	10.0
87. Non-government	90.0	90.0
88. Total	100.0	100.0
89. Government	10.0	10.0
90. Non-government	90.0	90.0
91. Total	100.0	100.0
92. Government	10.0	10.0
93. Non-government	90.0	90.0
94. Total	100.0	100.0
95. Government	10.0	10.0
96. Non-government	90.0	90.0
97. Total	100.0	100.0
98. Government	10.0	10.0
99. Non-government	90.0	90.0
100. Total	100.0	100.0

1980 est.

Program by activities:

Direct:

2. Other missiles
3. Modification of missiles
4. Spares and repair parts
5. Support equipment and facilities

-143

-185

240

107

19

Total direct

Reimbursable program (total)

10.00
Total

-401

Financing:

Offsetting collections from:

11.00	Federal funds
-------	---------------

-422

13.00	Trust funds
-------	-------------

350

21.40 Unobligated base

3

For completion of prior year budget plans

, 842

Available to finance new budget plans

196

Reprogramming from or to prior year budget

•
•
•
•

Unobligated balance transferred to other

accounts

350

25.00 Unobligated balance lapsing

517

Budget authority

•
•
•
•

Army

Missile Procurement, Army

22 JAN 79

Identification code	21-2032-0-1-051	Program and Financing (in thousands of dollars)		1977 fiscal year program	
		Budget plan (amounts for procurement actions programmed)		Obligations	
		1978 actual	1979 est.	1980 est.	1979 est.	1980 est.
Program by activities:					
Direct:					
2.	Other missiles	.....	.....	.....	.....
3.	Modification of missiles	.....	.....	.....	.....
4.	Spares and repair parts	.....	.....	.....	.....
5.	Support equipment and facilities	.....	.....	.....	.....
	Total direct	.....	.....	.....	.....
	Reimbursable program (total)	.....	.....	.....	.....
10.00	Total	.....	.....	.....	.....
Financing:					
Offsetting collections from:					
11.00	Federal funds	.....	.....	.....	.....
13.00	Trust funds	.....	.....	.....	.....
14.00	Non-federal sources	.....	.....	.....	.....
21.40	Unobligated balance available, start of year:	.....	.....	.....	.....
	For completion of prior year budget plans	.....	.....	.....	.....
	Available to finance new budget plans	.....	.....	.....	.....
	Reprogramming from or to prior year budget plans	.....	.....	.....	.....
23.40	Unobligated balance transferred to other accounts	.....	.....	.....	.....
24.40	Unobligated balance available, end of year:	.....	.....	.....	.....
	For completion of prior year budget plans	.....	.....	.....	.....
	Budget authority	.....	.....	.....	.....

Army

Missile Procurement, Army

22 JAN 79

Program and Financing (in thousands of dollars)		1973 Fiscal year program		
		Obligations		
Identification code	21-2032-0-1-051	Budget plan (amounts for procurement actions programmed)		1980 est.
		1978 actual	1979 est.	
Program by activities:				
Direct:				
2.	Other missiles	395,042	.....	7,700
3.	Modification of missiles	44,150	.....	400
4.	Spare and repair parts	56,807	.....	19,236
5.	Support equipment and facilities	66,688	.....	8,700
	Total direct	562,687	.....	36,036
	Reimbursable program (total)	480,416	.....	24,184
	Total	1,043,113	.....	60,220
10.00	Total			43,710
Financing:				
Offsetting collections from:				
11.00	Federal funds	-94,072	.....	.....
13.00	Trust funds	-387,522	.....	.....
14.00	Non-federal sources	-167	.....	.....
21.40	Unobligated balance available, start of year:			-43,710
22.40	For completion of prior year budget plans			.....
24.40	Unobligated balance transferred from other accounts	-7,132	.....	.....
	Total	-488,891	.....	-103,930
24.40	Unobligated balance available, end of year:			.....
	For completion of prior year budget plans			43,710
	Budget authority	554,220	.....	554,220
Budget authority:				
40.00	Appropriation	536,883	.....	.....
42.00	Transferred from other accounts	17,337	.....	.....
43.00	Appropriation (adjusted)	554,220	.....	.....

22 JAN 79

Missile Procurement, Army

Army

Program and Financing (in thousands of dollars)		1979 Fiscal year program			
		Budget plan (amounts for procurement actions programed)		Obligations	
Identification code 21-2032-0-1-051		1978 actual	1979 est.	1980 est.	1978 actual
Program by activities:					
Direct:					
1. Other missiles		616,400			561,056
2. Modification of missiles		69,800			64,000
3. Spares and repair parts		29,200			26,300
4. Support equipment and facilities		21,500			16,500
Total direct		736,900			667,856
Reimbursable program (total)		496,000			352,160
Total		1,232,900			1,020,016
Financing:					
Offsetting collections from:					
11.00 Federal funds		-68,100			-68,100
13.00 Trust funds		-427,900			-427,900
21.40 Unobligated balance available, start of year:					
For completion of prior year budget plans					-212,864
24.40 Unobligated balance available, end of year:					
For completion of prior year budget plans					49,367
Budget authority		736,900			736,900

Army

Missile Procurement, Army

22 JAN 79

Program and Financing (in thousands of dollars)		1980 Fiscal year program		
Identification code	21-2032-0-1-051	Obligations		
Budget plan (amounts for procurement actions programmed)		1978 actual	1979 est.	1980 est.
Program by activities:				
Direct:				
2.	Other missiles	1,020,700		936,500
3.	Modification of missiles	78,700		67,000
4.	Spare and repair parts	117,500		90,400
5.	Support equipment and facilities	33,000		31,300
Total direct		1,250,500		1,125,200
Reimbursable program (total)		515,300		366,573
Total		1,766,800		1,491,773
Financing:				
Offsetting collections from:				
11.00	Federal funds	-72,200		-72,200
13.00	Trust funds	-444,100		-444,100
24.40	Unobligated balance available, end of year:			275,027
For completion of prior year budget plans				
Budget authority		1,250,500		1,250,500

Army

Missile Procurement, Army

22 JAN 79

(Supplemental now requested under existing legislation)

		Program and Financing (in thousands of dollars)				Obligations	
Identification code		21-2032-1-1-051		Budget plan (amounts for procurement actions programmed)			
		1978 actual	1979 est.	1980 est.	1978 actual	1979 est.	1980 est.
Program by activities:							
Direct:							
3. Modification of missiles			2,800			2,130	390
4. Spares and repair parts			25,000			18,870	3,610
Total			27,800			21,000	4,000
Financing:							
21.40 Unobligated balance available, start of year:							
For completion of prior year budget plans							-6,800
24.40 Unobligated balance available, end of year:						6,800	2,800
For completion of prior year budget plans							
40.00 Budget authority			27,800			27,800	
(proposed supplemental appropriation)							
Relation of obligations to outlays:							
71.00 Obligations incurred, net						21,000	4,000
72.40 Obligated balance, start of year							18,500
74.40 Obligated balance, end of year						-18,500	-11,600
90.00 Outlays						2,500	10,900

MISSILE PROCUREMENT, ARMY

Section 2

Introductory Statement

DEPARTMENT OF THE ARMY
ANNUAL BUDGET ESTIMATES

Appropriation:	FY 1980, 81
Missile Procurement, Army	Budget
Section 2 - INTRODUCTORY STATEMENT	

This appropriation finances the acquisition of surface-to-air, surface-to-surface, and antitank/assault missile systems. Also included are major components, modifications, targets, test equipment, and depot repairable spares and repair parts; production base support; and depot rebuild facilities equipment.

The FY 1980 program continues procurement of the TOW antitank/assault missile system, the Improved HAWK, CHAPARRAL, STINGER, PATRIOT, and US ROLAND air defense systems, and PERSHING missiles and support equipment. Procurement is initiated for the General Support Rocket System (GSRs). Also included is procurement for the modifications of the CHAPARRAL, Improved HAWK, LANCE, PERSHING, and Land Combat Support System (LCSS).

The FY 1981 program continues procurement of CHAPARRAL and HAWK replacement motors, the US ROLAND and PATRIOT air defense systems, the STINGER manportable air defense weapon, the TOW antitank/assault missile system, and the GSRs. Procurement is initiated for the HELLFIRE system. Also included is procurement for the modifications of the Improved HAWK, LANCE, and PERSHING systems.

MISSILE PROCUREMENT, ARMY

Section 3

Summary of Requirements

SUMMARY OF REQUIREMENTS (In Thousands of Dollars)

Appropriation:	FY 1978 Actual	FY 1979 Estimate	FY 1980 Estimate
Missile Procurement, Army			
Antiballistic system	-0-	-0-	
Other missiles	395,042	616,400	1,020,700
Modification of missiles	44,150	72,600	78,700
Spares and repair parts	56,807	54,200	117,500
Support equipment and facilities	66,698	21,500	33,600
Total Direct Program	562,697	764,700	1,250,500
Reimbursable Program	480,416	496,000	516,300
TOTAL PROGRAM REQUIREMENTS	1,043,113	1,260,700	1,766,800
Less: Portion of program to be obligated in subsequent fiscal years	103,930	219,684	275,027
Plus: Obligation incurred against prior year program funds	61,368	77,984	211,227
TOTAL OBLIGATIONS	1,000,551	1,119,000	1,703,000

SUMMARY OF REQUIREMENTS (In Thousands of Dollars)

<u>Appropriation:</u>		FY 1981
<u>Missile Procurement, Army</u>		<u>Estimate</u>
Antiballistic systems		0
Other missiles		1,181,700
Modification of missiles		139,000
Spares and repair parts		92,900
Support equipment and facilities		68,200
<u>Total Direct Program</u>		<u>1,481,800</u>

MISSILE PROCUREMENT, ARMY

Section 4

Budget Activity Justification

Activity 1 - Antiballistic Missile System

Activity 2 - Other Missiles

Activity 3 - Modification of Missiles

Activity 4 - Spares and Repair Parts

Activity 5 - Support Equipment and Facilities

Department of the Army Annual Budget Estimates JUSTIFICATION	Appropriation		FY 1980	
	Missile Procurement, Army		Budget	
	(In Thousands of Dollars)			
	Actual	Estimate		
Budget Program or Budget Project Account	Fiscal Year 1978	Fiscal Year 1979	Fiscal Year 1980	
Activity 1 - Antiballistic Missile System (SAFEGUARD)				
Direct Obligations or Direct Budget Plan	\$ -0-	\$ -0-	\$ -0-	

Section 1 - PURPOSE AND SCOPE

These funds provide for procurement of the SAFEGUARD Antiballistic Missile System, including missile, launching and control devices, and associated equipment and related production base support.

Section 2 - JUSTIFICATION OF FUNDS REQUESTED

No funds are requested for FY 1980 and FY 1981 in this activity.

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FORMAT J

Department of the Army Annual Budget Estimates JUSTIFICATION	Appropriation			FY 1980
	Missile Procurement, Army			
	(In Thousands of Dollars)			
	Budget			
Budget Program or Budget Project Account	Actual	Estimate		
Activity 2 - Other Missiles	Fiscal Year 1978	Fiscal Year 1979	Fiscal Year 1980	
Direct Obligations or Direct Budget Plan	\$ 395,042	\$ 616,400	\$ 1,020,700	

Section 1 - PURPOSE AND SCOPE

Provides for procurement of surface-to-air, antitank/assault, and surface-to-surface missile systems; related ground support equipment; and initial issue and replacement of losses consumed in reliability firings, crew proficiency firings, and other training activities.

Section 2 - JUSTIFICATION OF FUNDS REQUESTED

CHAPARRAL Missile System - \$3.2 million is requested for smokeless rocket motors to replace shelf life motor losses.

HAWK Air Defense Missiles - \$36.5 million is requested for 197 Improved HAWK missiles to complete procurement in support of the inventory objective and to provide replacement rocket motors.

US ROLAND Missile System - \$283.3 million is requested for 410 missiles and 18 fire units in support of the inventory objective. The US ROLAND will provide quick reaction, all-weather, short-range air defense protection for selected assets in the Corps area and the communications zone.

PATRIOT Missile System - \$426.0 million is requested to procure 155 missiles and 5 fire units for the PATRIOT missile system. PATRIOT is an improved system which will replace NIKE - HERCULES and HAWK and is better able to meet the threat of the 1980's and beyond.

STINGER Missile System - \$81.0 million is requested for procurement of 2400 STINGER missiles and ground support equipment. The program for FY80 represents the third year of a planned nine-year procurement effort designed to fill the Army inventory objective. The STINGER, which replaces the obsolete REDEYE, has greater accuracy and a significantly improved engagement capability.

TOW Missile System - \$58.2 million is requested to procure blast simulators and 12,865 TOW missiles to support the inventory objective. The FY 1980 procurement program will afford a cost effective warm production base for a product improved TOW missile, provided that urgent developmental efforts for an improved missile warhead and guidance package, needed to defeat the increasing enemy armor threat, are accomplished as now planned.

PERSHING Missile System - \$70.6 million is requested to maintain the minimum stockage level to support the PlA quick reaction alert role in Europe.

FORMAT A

Department of the Army Annual Budget Estimates JUSTIFICATION		FY 1980
Appropriation	Budget Program or Budget Project Account	Budget
Missile Procurement, Army	Activity 2 - Other Missiles	

General Support Rocket System (GSR) - \$61.9 million is requested to procure initial production facilities, 1764 rockets, and associated ground support equipment. The GSR is an 8.9-inch-diameter multiple rocket launcher system with tracked self-propelled launcher/loader, disposable pods, and fin control equipment. Its mission is to neutralize or suppress enemy field artillery, air defense systems, and supplement cannon artillery when targets exceed capabilities during surge conditions.

Department of the Army Annual Budget Estimates JUSTIFICATION	Appropriation Missile Procurement, Army (In Thousands of Dollars)	FY 1980	
		Budget	
		Estimate	
		Fiscal Year 1981	
Budget Program or Budget Project Account			
Activity 2 - Other Missiles			
Direct Obligations or Direct Budget Plan		\$ 1,181,700	

Section 1 - PURPOSE AND SCOPE

Provides for procurement of surface-to-air, air-to-surface, antitank/assault, and surface-to-surface missile systems; related ground support equipment and initial issue and replacement of losses consumed in reliability firings, crew proficiency firings, and other training activities.

Section 2 - JUSTIFICATION OF FUNDS REQUESTED

CHAPARRAL Missile System - \$3.2 million is requested to continue procurement of replacement rocket motors for CHAPARRAL missiles to improve reliability of the system.

HAWK Air Defense Missiles - \$9.4 million is requested for replacement rocket motors to improve reliability of the system.

US ROLAND Missile System - \$494.2 million is requested to continue the procurement of the US ROLAND missile system. A seven-year hardware procurement effort is planned to satisfy the requirement for all-weather, short-range air defense protection for selected assets in the Corps area and the communications zone.

PATRIOT Missile System - \$419.8 million is requested for hardware procurement in FY81. PATRIOT is a mobile air defense system consisting of a phased array radar set, engagement control station, power plant, and launching station, each mounted on a wheeled vehicle. The missile is mounted within a canister which serves both as a shipping container and launch tube.

STINGER Missile System - \$84.8 million is requested for the continuation of the procurement of the STINGER missile system. The program for FY81 represents the fourth year of a planned nine-year procurement effort designed to fill the Army's inventory objective. The STINGER, scheduled to replace the obsolete REDEYE, has greater accuracy and a significantly improved engagement capability.

HELLFIRE Missile System - \$26.5 million is requested to begin provisioning of production facilities and start hardware production of the HELLFIRE missile system. The purpose of the HELLFIRE missile system is to defeat the current and future armor threat at long stand-off ranges. When mounted on the Advanced Attack Helicopter, AH-64, it will increase helicopter survivability and fire power.

Department of the Army Annual Budget Estimates		FY 1980
JUSTIFICATION		Budget
Appropriation	Budget Program or Budget Project Account	
Missile Procurement, Army	Activity 2 - Other Missiles	

FORMAT A

TOM Missile System - \$61.4 million is requested for procurement of 12735 missiles in support of the inventory objective and for blast simulators.

General Support Rocket System (GSR) - \$82.4 million is requested to continue procurement of initial production facilities, tactical rockets, and associated ground support equipment. This is the second year of a nine-year procurement designed to fill the Army inventory objective. GSR is a self-propelled, fast-reacting, multiple rocket launcher which will provide a high volume of fire in a very short time against the surge threat.

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Department of the Army Annual Budget Estimates JUSTIFICATION	Appropriation		'FY 1980 Budget
	Missile Procurement, Army		
	(In Thousands of Dollars)		
	Actual	Estimate	
Budget Program or Budget Project Account	Fiscal Year 1978	Fiscal Year 1979	Fiscal Year 1980
Activity 3 - Modification of Missiles			
Direct Obligations or Direct Budget Plan			
	\$ 44,150	\$ 72,600	\$ 78,700

Section 1 - PURPOSE AND SCOPE

Provides for the modification of surface-to-air, surface-to-surface, and related ground support equipment.

Section 2 - JUSTIFICATION OF FUNDS REQUESTED

CHAPARRAL - \$16.1 million is requested to complete modification of the CHAPARRAL fire units with an electronic MK XII compatible Identification Friend or Foe (IFF), and to make improvements to the detent assembly and launcher rail firing circuit tester to reduce the number of missile misfires. Modifications are also included to improve the fire unit circuitry and the main power unit. The IFF modification will permit the CHAPARRAL gunner to make maximum use of the forward aspect engagement capability of the Improved CHAPARRAL missile.

HAWK - \$44.1 million is requested for modifications to the Improved HAWK missile system to complete the reliability, availability, and maintainability (RAM) improvements to the High Power Illuminators and radar emission control to enhance the survivability of the Pulse Acquisition Radar and the High Power Illuminator. It also begins funding of a two-year effort to provide a tracking adjunct system for backup tracking in an electronic countermeasure (ECM) environment, and a five-year effort to provide a missile ECM modification to increase missile capabilities against countermeasures.

LANCE - \$4.1 million is required to continue the program to provide an improved safe-arm device for the LANCE nuclear warhead to enable it to withstand abnormal crash and fire environments.

Land Combat Support System (LCSS) - \$6.0 million is requested to complete the modification to correct the high failure rate of the test adapter.

PERSHING - \$8.4 million is requested to replace aging radio equipment with standardized equipment and to repack the shop sets to provide more space and better utilization of the equipment.

NOTE: Details of Missile Modifications, to include the type and number of each to be modified, the unit and total cost, and the description of the modification, are included in Section 8, Modification of Missiles.

FOR TOP BOTTOM OR SIDES

Department of the Army Annual Budget Estimates JUSTIFICATION	Appropriation Missile Procurement, Army (In Thousands of Dollars)	FY 1980 Budget
Budget Program or Budget Project Account		Estimate
Activity 3 - Modification of Missiles		Fiscal Year 1981
Direct Obligations or Direct Budget Plan		\$ 139,000

Section 1 - PURPOSE AND SCOPE

Provides for the modification of surface-to-air, surface-to-surface, and antitank missile systems.

Section 2 - JUSTIFICATION OF FUNDS REQUESTED

HAWK - \$45.1 million is requested for the continuation of two modifications to the HAWK missile system. They are the Tracker Adjunct System (TAS) to provide a backup optical tracking system for electronic countermeasures (ECM) environments, and a missile ECM modification to increase missile capability against countermeasures.

LANCE - \$17.6 million is requested to provide an improved nonnuclear LANCE warhead to increase payload effectiveness.

PERSHING - \$6.5 million is requested to initiate procurement of kits for the PERSHING life extension program.

GRASSBLADE - \$69.8 million is requested for GRASSBLADE. The program content is classified SECRET "Limited Distribution - Special Access Required," precluding further description. Access to GRASSBLADE is controlled by the Deputy Chief of Staff for Research, Development, and Acquisition.

Department of the Army Annual Budget Estimates JUSTIFICATION	Appropriation Missile Procurement, Army (In Thousands of Dollars)	FY 1980	
		Budget	
		Fiscal Year 1981	Estimate
Budget Program or Budget Project Account			
Activity 4 - Spares and Repair Parts			
Direct Obligations or Direct Budget Plan			\$ 92,900

Section 1 - PURPOSE AND SCOPE

Provides for the procurement of initial provisioning, peacetime replenishment, and mobilization reserve of repairable major assemblies and repair parts for surface-to-air, air-to-surface, surface-to-surface, and antitank missile systems and other support items.

Section 2 - JUSTIFICATION OF FUNDS REQUESTED

Required for the procurement of initial provisioning, peacetime replenishment, and mobilization reserve requirements of centrally managed, high dollar value depot repairable components, assemblies, and repair parts which are not carried in Army Stock Fund inventories.

OTHER MISSILES - \$92.9 million is requested to support the major item procurements and to replenish inventory levels of selected high unit cost repair parts.

Department of the Army Annual Budget Estimates JUSTIFICATION	Appropriation			FY 1980
	Missile Procurement, Army			Budget
	(In Thousands of Dollars)			
	Actual	Fiscal Year 1978	Fiscal Year 1979	Fiscal Year 1980
Budget Program or Budget Project Account				
Activity 5 - Support Equipment and Facilities Direct Obligations or Direct Budget Plan				
	\$ 66,698	\$ 21,500		\$ 33,600

Section 1 - PURPOSE AND SCOPE

Provides for the procurement of support equipment, items less than \$900,000, production base support, and depot rebuild facilities equipment in support of the Army missile program.

Section 2 - JUSTIFICATION OF FUNDS REQUESTED

Air Defense Targets - \$8.2 million is requested for Ballistic Aerial Target System (BATS) and for continued production of the Variable Speed Training Target (VSTT) and procurement of other target missiles, towed targets, and ground support equipment. This program provides target missiles for training of air defense personnel and for evaluation of air defense weapons systems.

Items Less Than \$900,000 - \$0.2 million for procurement of tool and test sets peculiar to missile system hardware maintenance and repair.

Production Base Support - \$14.9 million is requested to fund 31 projects. Twenty-four projects totalling \$7.1 million are in the area of manufacturing methods and technology, and deal with the advancement of manufacturing techniques for various missile components. Four projects totalling \$6.6 million are related to Provision of Industrial Facilities (PIF) consisting of providing replacement or new equipment used for production testing of weapon systems and associated materials at White Sands Missile Range, rehabilitation of buildings at a Government-owned contractor-operated (GOCO) facility at Redstone Arsenal, and preparation of design criteria and specifications for submission to Corps of Engineers for execution of concept/final design and specification for construction. Two projects totalling \$0.8 million, Layaway of Industrial Facilities, provides for layaway of items not required for low rate production of the TOV missile, but which are required for future acceleration or mobilization. One project, of \$0.4 million, Layaway of Industrial Facilities, provides removal of Government-owned equipment from the Michigan Army Missile Plant.

Depot Rebuild Facilities Equipment - \$10.3 million is requested for procurement of capital plant equipment required to support the depot maintenance mission.

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Department of the Army Annual Budget Estimates JUSTIFICATION	Appropriation Missile Procurement, Army (In Thousands of Dollars)	FY 1980 Budget
Budget Program or Budget Project Account Activity 5 - Support Equipment and Facilities Direct Obligations or Direct Budget Plan	Estimate Fiscal Year 1981	\$ 68,200

Section 1 - PURPOSE AND SCOPE

Provides for the procurement of support equipment, items less than \$900,000, production base support, and depot rebuild facilities equipment in support of the Army missile programs.

Section 2 - JUSTIFICATION OF FUNDS REQUESTED

Defense Acquisition Radar - \$29.7 million is requested for procurement of nine Defense Acquisition Radars. This radar will replace the AN/GSS-1/7, and in operation with the AN/TSQ-73 will provide command and control to HAWK and NIKE HERCULES units in USAREUR. This is a nondevelopmental procurement of equipment currently available from production.

Air Defense Targets - \$8.2 million is requested for procurement of air defense target missiles, towed targets, and ground support equipment.

Items Less Than \$900,000 - \$0.2 million is requested for procurement of tool and test sets peculiar to missile systems hardware maintenance and repair.

Production Base Support - \$12.2 million is requested to support Manufacturing Methods and Technology (MM&T) projects (\$9.1 million), Provision of Industrial Facilities (PIF) projects (\$1.0 million), Layaway of Industrial Facilities (\$0.8 million), and Military Adaptation of Commercial Items (MACI) (\$1.3 million).

Depot Rebuild Facilities Equipment - \$17.9 million is requested to procure capital plant equipment in support of the depot maintenance mission.

MISSILE PROCUREMENT, ARMY

Section 5

Comparison of Program Requirements and Financing

Comparison of FY 1979 program requirements as reflected in FY 1979 budget with FY 1979 program requirements as shown in FY 1980 budget.

Comparison of FY 1979 financing as reflected in FY 1979 budget with FY 1979 financing as shown in FY 1980 budget.

Comparison of FY 1978 program requirements as reflected in FY 1979 budget with FY 1978 program requirements as shown in FY 1980 budget.

Comparison of FY 1978 financing as reflected in FY 1979 budget with FY 1978 financing as shown in FY 1980 budget.

COMPARISON OF FY 1979 PROGRAM REQUIREMENTS
AS REFLECTED IN FY 1979 BUDGET WITH
FY 1979 PROGRAM REQUIREMENTS AS SHOWN IN FY 1980 BUDGET

SUMMARY OF REQUIREMENTS (In Thousands of Dollars)

Appropriation: Missile Procurement, Army	Total Program Requirements Per FY79 Budget	Program Requirements Per FY80 Budget	Increase (+) or Decrease (-)
Activity 1 - Antiballistic Missile System	-0-	-0-	
Activity 2 - Other Missiles	648,600	616,400	-32,200
Activity 3 - Modification of Missiles	72,700	72,600	-100
Activity 4 - Spares and Repair Parts	29,200	54,200	+25,000
Activity 5 - Support Equipment and Facilities	22,700	21,500	-1,200
TOTAL	773,200	764,700	- 8,500

EXPLANATION BY ACTIVITY

Activity 2 - Other Missiles (-\$32,200) - Reduction of \$35.1 million in US ROLAND by Congress and increase of \$2.9 million in CHAPARRAL missiles to procure smokeless motors directed by Congress.

Activity 3 - Modification of Missiles (-\$100) - Reduction of \$2.9 million in TOW modifications directed by Congress. Money was moved to CHAPARRAL modifications by Congress to buy CHAPARRAL smokeless motors. Since smokeless motors are procured in the CHAPARRAL missile line, the \$2.9 million was moved as shown above to the CHAPARRAL missile budget line. Increase of \$2.8 million in PERSHING modifications for the Life Extension Assessment Program in the FY 1979 Supplemental Budget.

Activity 4 - Spares and Repair Parts (+\$25,000) - Increase \$25.0 million in HAWK initial and replenishment spares in the FY 1979 Supplemental Budget.

Activity 5 - Support Equipment and Facilities (-\$1,200) - Reduction of \$1.2 million in first destination transportation directed by Congress.

COMPARISON OF FY 1979 FINANCING AS REFLECTED
IN THE FY 1979 BUDGET WITH FY 1979 FINANCING
AS SHOWN IN THE FY 1980 BUDGET

(In Thousands of Dollars)			
Appropriation:	Financing Per FY 1979 Budget	Financing Per FY 1980 Budget	Increase (+) or Decrease (-)
Missile Procurement, Army			
Program Requirements (Total)	1,310,300	1,260,700	-49,600
Program Requirements (Service account)	(773,200)	(764,700)	(- 8,500)
Program Requirements (Reimbursable)	(537,100)	(496,000)	
Less:			
Anticipated reimbursements	537,100	496,000	(-41,100)
Reprogramming from prior year budget plans			
Unobligated balance available from prior year to finance new budget plans			
Unobligated balance transferred from other accounts			
Add: Unobligated balance transferred from other accounts.			
Unobligated balance available to finance subsequent year budget plans			
Budget Authority	773,200	764,700	- 8,500

BUDGET AUTHORITY:

Appropriation	773,200	764,700	- 8,500
Transferred to Other Accounts	-0-	-0-	
Appropriation (adjusted)	773,200	764,700	- 8,500

EXPLANATION OF CHANGES IN FINANCING

The Fiscal Year 1979 program has decreased \$49.6 million since preparation of the Fiscal Year 1979 budget to Congress. Adjustments to financing categories are explained below:

1. Anticipated Reimbursements: \$41.1 million decrease in Foreign Military Sales.
2. Budget Authority: \$8.5 million decrease as result of a \$36.3 million reduction by Congressional action and a \$27.8 million increase in the FY 1979 Supplemental Budget.

COMPARISON OF FY 1978 PROGRAM REQUIREMENTS
AS REFLECTED IN FY 1979 BUDGET WITH
FY 1978 PROGRAM REQUIREMENTS AS SHOWN IN FY 1980 BUDGET

SUMMARY OF REQUIREMENTS (In Thousands of Dollars)			
Appropriation:	Total Program Requirements	Program Requirements	Increase (+) or Decrease (-)
	Per FY79 Budget	Per FY80 Budget	
Missile Procurement, Army			
Activity 1 - Antiballistic Missile System	-0-	-0-	
Activity 2 - Other Missiles	401,700	395,042	- 6,658
Activity 3 - Modification of Missiles	44,100	44,150	+ 50
Activity 4 - Spares and Repair Parts	25,683	56,807	+31,124
Activity 5 - Support Equipment and Facilities	65,400	66,698	+ 1,298
TOTAL	536,883	562,697	+25,814

EXPLANATION BY ACTIVITY

Activity 2 - Other Missiles (-\$6,658) - A reduction of \$6.4 million in HAWK (\$1.9), TOW (\$2.0), and LANCE (\$2.5) programs resulted from reprogramming funds to Spares and Repair Parts. Reduction of \$1.5 million in DRAGON was reprogrammed to Air Defense Command/Control System, AN/TSQ-73. Increase of \$1.3 million resulting from reimbursement for sale of missiles to China.

Activity 4 - Spares and Repair Parts (+\$31,124) - An increase of \$2 million in initial spares associated with LANCE resulted from reprogramming funds from Production Base Support. An increase of \$30.9 million was a result of reprogramming \$6.4 million of Activity 2 funds and \$24.5 million of funds from other appropriations.

Activity 5 - Support Equipment and Facilities (+\$1,298) - An increase of \$1.5 million was required to support the Air Defense Command/Control System, AN/TSQ-73. A decrease of \$2 million in Production Base Support was reprogrammed to Spares and Repair Parts.

COMPARISON OF FY 1978 FINANCING AS REFLECTED
IN THE FY 1979 BUDGET WITH FY 1978 FINANCING
AS SHOWN IN THE FY 1980 BUDGET

Appropriation:	(In Thousands of Dollars)		
	Financing Per FY 1979 Budget	Financing Per FY 1980 Budget	Increase (+) or Decrease (-)
Missile Procurement, Army			
Program Requirements (Total)	1,025,083	1,043,113	+18,030
Program Requirements (Service Account)	(536,883)	(562,697)	(+25,814)
Program Requirements (Reimbursable)	(488,200)	(480,416)	(- 7,784)
Less:			
Anticipated reimbursements	488,200	481,761	- 6,439
Reprogramming from prior year budget plans			
Unobligated balance available from prior year to finance new budget plans		7,132	+ 7,132
Unobligated balance transferred from other accounts			
Add: Unobligated balance transferred to other accounts			
Unobligated balance available to finance subsequent year budget plans			
Budget Authority	536,883	554,220	+17,337

BUDGET AUTHORITY:

Appropriation	536,883	536,883	+17,337
Transferred from Other Accounts	-0-	17,337	+17,337
Appropriation (adjusted)	536,883	554,220	

EXPLANATION OF CHANGES IN FINANCING

This Fiscal Year 1978 program has increased \$18.0 million since preparation of the Fiscal Year 1979 budget to Congress. Adjustments to financing categories are explained below:

1. Anticipated Reimbursements: \$6.4 million decrease in Foreign Military Sales Program.
2. Unobligated balance available to finance subsequent year budget plans: \$7.1 million increase by Congressional action for Missiles Spares and Repair Parts.
3. Budget Authority: \$17.3 million increase by Congressional action for Missile Spares and Repair Parts.

MISSILE PROCUREMENT, ARMY

Section 6

Selected Data Sheets

NOT USED

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MISSILE PROCUREMENT, ARMY

Section 7

Analysis of Unobligated Balances

MISSILE PROCUREMENT, ARMY

Analysis of Unobligated Balances - FY 1980 Program Summary by Category

Category	Estimated Unobligated		
	Dollars (Millions)	% of Total Unobligated	
1. Reserved to support contracts	227.4	70.1	
2. Engineering changes	44.4	13.7	
3. Other	52.6	16.2	
	324.4	100%	
Total Unobligated FY 1980			

Explanation by Category

Based on past experience, it is predicted that the above amounts will remain unobligated at the end of FY80. Reasons for the unobligated balance have been grouped into three general categories, and are detailed below. These unobligated amounts will therefore be required in subsequent years to complete the procurement of the FY80 program.

1. Reserved to Support Contracts:
 - a. Held pending award of firm contracts as opposed to letter orders.
 - b. Amounts reserved for incentive contract payments.
 - c. Amounts held to support Product and Component Improvement Programs: modification of missiles during production; modification ordered by customers.
 - d. Contractor claims, amounts required to cover liabilities for contracts containing escalation clauses for labor or material cost increases and price redeterminations.
 - e. Contract close-out costs: packing, crating, handling, and packaging and loading charges.
 - f. Government-furnished equipment breakout procurements: preparation of manuals and technical data; reserve for completion of construction elements of production base support facilities projects.
 - g. Delay due to design or testing difficulties.
 - h. Update technical data or procurement package.

MISSILE PROCUREMENT, ARMY (Continued)

2. Engineering Changes:

- a. Engineering services in support of production (obligated only as expenses are incurred).
- b. Validated engineering change orders to be incorporated into the current manufacturing process.
- c. Engineering changes as a result of acceptance testing.
- d. Amounts reserved to support engineering changes and value engineering proposals.

3. Other:

- a. Additional time required to complete audits of cost data and to obtain contract cost data.
- b. Unfavorable preaward surveys and extended negotiations with contractors.

MISSILE PROCUREMENT, ARMY

Section 8

Modification of Missiles (Exhibit P-33)

<u>P-1 Line Numbers</u>	<u>Item Nomenclature</u>	<u>Page No.</u>
	MISSILE MODIFICATION PROGRAM	
12	CHAPARRAL	2-40
13	HAWK	2-41
15	LANCE	2-44
16	LCSS TEST ADAPTER	2-47
18	PERSHING	2-49
		2-50

MISSILE MODIFICATION, ARMY

FY 1980 PRESIDENT'S BUDGET

	<u>Missile/Mod No.</u>	FY 1980		FY 1981	
		<u>Quantity</u>	<u>FY80 Cost</u>	<u>Quantity</u>	<u>FY81 Cost</u>
CHAPARRAL	PIP 1-76-03-008-B-1	--	\$ 14.0	--	\$ --
	PIP 1-79-03-0302	--	1.5	--	--
	PIP 1-80-03-0307	--	0.2	--	--
	PIP 1-80-03-0308	--	0.4	--	--
HAWK	PIP 1-76-03-0016	70	23.7	88	26.7
	PIP 1-75-03-0111	86	3.4	--	--
	PIP 1-79-03-0113	56	11.2	--	--
	PIP 1-79-03-0119	--	5.8	--	18.4
LANCE	PIP 1-76-03-0002D	--	4.1	--	--
	PIP 1-77-02-0017	--	--	--	17.6
LCSS TEST ADAPTER	PIP 1-76-03-0007	28	6.0	--	--
	PIP 1-77-03-0401A	--	7.7	--	--
PERSHING	PIP 1-78-03-0402A	--	.7	--	--
	Life Extension Program (LEP)	--	--	--	6.5

MISSILE MODIFICATION
(\$ in Millions)

Appropriation: Missile Procurement, Army

Missile Type: CHAPARRAL Guided Missile Intercept, Aerial WTM-72-A/C

Missile Modification Title:

Identification Friend or Foe (IFF) - PIP 1-76-03-0008-B-1
Detent Assembly/Rail Tester - PIP 1-79-03-0302
Hold Fire Indicator - PIP 1-80-03-0307
CHAPARRAL Main Power Unit - PIP 1-80-03-0308

Description/Justification:

PIP 1-76-03-0008-B-1 - The improved WTM-72C missile, with its forward aspect capability, gives the CHAPARRAL gunner the capability to engage targets before visual identification is possible. Mode III and IV capable Identification Friend or Foe (IFF) hardware developed for the STINGER missile system will be adapted for use in the CHAPARRAL fire unit.

PIP 1-79-03-0302 - This modification will reduce the number of missile misfires through improvements to certain components of the Detent Assembly which, among other functions, retains the missile in position until launch and provides ground and firing contact signal circuits. In addition, a launcher rail firing circuit tester is required to assume complete circuits prior to attempted launch.

PIP 1-80-03-0307 - The CHAPARRAL fire unit has a circuit designed to indicate to the gunner that a target is too close to the fire unit for the missile to intercept successfully. This circuit, which is for the older version WTM-72A missile, will be changed to accommodate the improved WTM-72C missile.

PIP 1-80-03-0308 - This modification will improve the operational availability of the Main Power Unit by reducing failures that occur when the choke solenoid wire is grounded and destroys two relays in the generator set control box. This change will provide a fuse for the solenoid circuit, a new cable harness, and increased relay contact capabilities.

CHAPARRAL Guided Missile Intercept, Aerial MM-72-A/C (Continued)

Development Status:

<u>PIP 1-76-03-0008-B-1</u>	-	Initiate Engineering Effort	-	20FY76
		Hardware Contract Award	-	10FY79
		First Hardware Delivery	-	30FY80
		Start Installation	-	10FY81
		End Installation	-	40FY82
 <u>PIP 1-79-03-0302</u>	 -	 Initiate Engineering Effort	 -	 10FY79
		Hardware Contract Award	-	20FY80
		First Hardware Delivery	-	30FY80
		Start Installation	-	10FY81
		Complete Installation	-	40FY81
 <u>PIP 1-80-03-0307</u>	 -	 Initiate Engineering Effort	 -	 20FY78
		Hardware Contract Award	-	10FY80
		First Hardware Delivery	-	30FY80
		Start Installation	-	10FY81
		Complete Installation	-	30FY82
 <u>PIP 1-80-03-0308</u>	 -	 Initiate Engineering Effort	 -	 20FY77
		Hardware Contract Award	-	10FY80
		First Hardware Delivery	-	30FY80
		Start Installation	-	10FY81
		Complete Installation	-	30FY82

CHAPARRAL Guided Missile Intercept, Aerial MM-72-A/C (Continued)

Scope of Program:

	FY 1978 & Prior Years		FY 1979 Current Year		FY 1980 Budget Year		FY 1981 Budget Year + 1		Future Years		Total Program	
	Qty	Amt	Qty	Amt	Qty	Amt	Qty	Amt	Qty	Amt	Qty	Amt
PIP 1-76-03-0008-B-1												
MIPA			126	7.1	362	14.0					488	21.1
RDTE		4.4										4.4
OMA				0.2		0.1		0.5		0.4		1.2
PIP 1-79-03-0302					2180	1.5					2180	1.5
MIPA								0.1				0.5
RDTE				0.4								
OMA												
PIP 1-80-03-0307					500	0.2					500	0.2
MIPA												
RDTE						0.1		0.1		0.1		0.3
OMA												
PIP 1-80-03-0308					488	0.4					488	0.4
MIPA												
RDTE												
OMA						0.1		0.2		0.2		0.5

Basis for Cost Estimate: Analytical and engineering techniques.

Method of Implementation: Field installation by contractor/Government contract teams.

MISSILE MODIFICATION
(\$ in Millions)

Appropriation: Missile Procurement, Army

Missile Type: Improved HAWK System - Surface-to-Air

Missile Modification Title:

Tracking Adjunct System - PIP 1-76-03-0016
IPAR Emission Control - PIP 1-75-03-0111
HPI Reliability, Availability & Maintainability - PIP 1-79-03-0113
Missile ECM Update - PIP 1-79-03-0119

Description/Justification:

PIP 1-76-03-0016 - Provides a backup optical tracking capability to compensate for the potential of jamming or destruction of radar tracking.

PIP 1-75-03-0111 - Provides antiradiation missile protection for the Pulse Acquisition Radar.

PIP 1-79-03-0113 - Greatly increases the Mean Time Between Failure of the High Power Illuminator by eliminating or replacing the most troublesome components of this radar.

PIP 1-79-03-0119 - Updates the electronic countermeasure capability of the HAWK missile to retain a high kill probability in the advanced threat environment.

Development Status:

PIP 1-76-03-0016	-	Prototype Delivery	-	September 1979
		Testing Complete	-	January 1980
		Production Contract Award	-	February 1980
		First Production Delivery	-	May 1981

Improved HAWK System - Surface-to-Air (Continued)

<u>PIP 1-75-03-0111</u>	-	Prototype Delivery	-	April 1979
	-	Testing Complete	-	September 1979
	-	Production Contract Award	-	November 1979
	-	First Production Delivery	-	December 1980
<u>PIP 1-79-03-0113</u>	-	Prototype Delivery	-	February 1979
	-	Testing Complete	-	July 1979
	-	Production Contract Award	-	August 1979
	-	First Production Delivery	-	March 1980
<u>PIP 1-79-03-0119</u>	-	Prototype Delivery	-	April 1980
	-	Testing Complete	-	December 1980
	-	Production Contract Award	-	January 1980
	-	First Production Delivery	-	December 1981

Scope of Program:

PIP 1-76-03-0016

MIPA
RDTE
OMA

PIP 1-75-03-0111

MIPA
RDTE
OMA

FY 1978 & Prior Years		FY 1979		FY 1980		FY 1981		Future Years		Total Program	
Qty	Amt	Qty	Amt	Qty	Amt	Qty	Amt	Qty	Amt	Qty	Amt
	9.7			70	23.7	88	26.7			158	50.4
			.1		.5		.5		1.7		10.2
							.7				3.0
	6.9		.8	86	3.4		.4			86	3.4
					.4		.7		1.8		8.5
					.4						2.9

Improved HAWK System - Surface-to-Air (Continued)

FY 1978 & Prior Years		FY 1979		FY 1980		FY 1981		Future Years		Total Program	
Qty	Amt	Qty	Amt	Qty	Amt	Qty	Amt	Qty	Amt	Qty	Amt
		129	22.4	56	11.2					185	33.6
			4.7		3.5		5.0		14.4		27.6
			4.5		5.8		18.4		31.9		56.1
					7.0		2.5				14.0
					1.5		2.0		1.0		4.5

PIP 1-79-03-0113

MIPA
RDTE
OMA

PIP 1-79-03-0119

MIPA
RDTE
OMA

Basis for Cost Estimates: Engineering estimates.

Method of Installation: To be installed by depot team.

MISSILE MODIFICATION
(\$ in Millions)

Appropriation: Missile Procurement, Army

Missile Type: LANCE Missile System

Missile Modification Title:

FY80 M120 Arm-Safe Device, Atomic Weapon - PIP 1-76-03-0002D
FY81 Improved Nonnuclear LANCE (INNLC) - PIP 1-77-02-0017

Description/Justification:

PIP 1-76-03-0002D - The Improved (hard link) Arm-Safe Device will incorporate control of all M238 adaption kit inputs to arm and fire the W70 warhead. The device will be designed to withstand abnormal crash and fire environments and is expected to delete Safety Rule 6, AR 50-109, which prohibits, throughout much of the stockpile sequence, the connection of the cable which feeds adaption kit inputs to the warhead.

PIP 1-77-02-0017E - Significantly increases effectiveness of NNL Warhead by developing a high density fragmenting bomblet at only a moderate increase in cost.

Development Status:

PIP 1-76-03-0002D - In production.

PIP 1-77-02-0017E - Production of bomblet will begin in FY 1981.

Scope of Program:

FY 1978 & Prior Years		FY 1979		FY 1980		FY 1981		Future Years		Total Program	
Qty	Amt	Qty	Amt	Qty	Amt	Qty	Amt	Qty	Amt	Qty	Amt
0	0	5.0	5.0	4.1	4.1	0	0	0	0	9.1	9.1
0	0	0.1	0.1	0.1	0.1	0	0	.2	.2	.4	.4
0	0	0	0	0	0	17.6	17.6	1.0	1.0	18.6	18.6
0	0	0	0	0	0	.6	.6	1.7	1.7	2.3	2.3

PIP 1-76-03-0002D

MIPA

OMA

PIP 1-77-02-0017E

MIPA

OMA

LANCE Missile System (Continued)

Basis for Cost Estimates:

PIP 1-76-03-0002D - Contractor quotes.
PIP 1-77-02-0017E - Project estimates.

Method of Implementation:

PIP 1-76-03-0002D - Retrofit to be accomplished on site by two teams who will spend two months each, training troops on installation and maintenance of the device.

PIP 1-77-02-0017E - Present warheads will be retrofitted at Milan Army Ammunition Plant (MAAP).

MISSILE MODIFICATION
(\$ in Millions)

Appropriation: Missile Procurement, Army

Missile Type: Land Combat Support System (LCSS)

Missile Modification Title: LCSS Test Adapter - PIP 1-76-03-0007

Description/Justification:

PIP 1-76-03-0007 - Proposes to redesign the Test Adapter with the latest high reliability components. Present test adapters experience a high failure rate and warping.

Development Status:

PIP 1-76-03-0007 - Hardware production.

Scope of Program:

FY 1978 & Prior Years		FY 1979		FY 1980		FY 1981		Future Years		Total Program	
Qty	Amt	Qty	Amt	Qty	Amt	Qty	Amt	Qty	Amt	Qty	Amt
	4.4	3.7		6.0		0.4		0		9.7	
MIPA		1.0		.7				0		6.5	
OMA											

Basis for Cost Estimates:

PIP 1-76-03-0007 - Based on Project Office estimates.

Method of Implementation: By Depot Mod Teams during their programed MOD installation visits to worldwide sites.

MISSILE MODIFICATION
(\$ in Millions)

Appropriation: Missile Procurement, Army

Missile Type: PERSHING IA Missile System

Missile Modification Title:

FY80 AN/TRC-172 - PIP 1-77-03-0401A

FY80 Repair Shop Set Repackaging - PIP 1-78-03-0402A

FY81 Life Extension Program (LEP)

Description/Justification:

PIP 1-77-03-0401A - To replace aging AN/TRC 80B equipment and provide the required tropospheric scatter capability.

PIP 1-78-03-0402A - To repackaging the shop set equipment to provide more space and better utilization of the equipment.

Life Extension Program - To improve PIA equipment to extend the life of the system.

Development Status:

PIP 1-77-03-0401A - In production.

PIP 1-78-03-0402A - In production.

Life Extension Program - Initial upgrade of old equipment.

Scope of Program:

	FY 1978 & Prior	FY79	FY80	FY81	Future Years	Total Program
PIP 1-77-03-0401A						
MIPA	0.4	11.2	7.7	0	0	19.3
OMA	1.0	.5	.2	0	0	1.7
PIP 1-78-03-0402A						
MIPA	.3	1.2	.7	0	0	1.9
OMA		.7	0	0	0	.1
<u>Life Extension Program</u>						
MIPA		2.8*	0	6.5	94.8	104.1
OMA		3.7*	0	0	0	3.7
					2-50	1/22/79

PERSHING IA Missile System (Continued)

Basis for Cost Estimates: PERSHING Project estimate.

Method of Implementation:

PIP 1-77-03-0401A - Installed by the user.

PIP 1-78-03-0403A - Transfer of equipment made by troops in the field.

Life Extension Program (LEP) - Depends on individual upgrade requirements.

* Life Extension Assessment Program (LEAP) in FY 1979 Supplemental Budget. LEAP is conducted to determine actual LEP requirements.

MISSILE PROCUREMENT, ARMY

Section 9

Flight Simulators

NOT USED

MISSILE PROCUREMENT, ARMY

Section 10

War Reserves - Secondary Items

(TO BE FURNISHED SEPARATELY)

2-53 1/22/79

DISTRIBUTION

HAC
SAC
HASC
SASC
HBC
SBC
CBO
ASD(C)
ASD(DFOISR)
ASA(IL&FM)
ASA(RDA)
ASA(M&RA)
DACS-DC
DACS-BMZ-A
DACS-DP
DACA-BUB
DACA-BUS
DACA-BUR
DACA-BU
DAAG-OPZ-D
DAAC-RM-BB
OCLL

DAMI
DAMO
DAPE
DAMA-PP
DAMA-PPP
DAMA-PPC
DAMA-PPR
DAMA-PPT
DAMA-WS
DAMA-WSA
DAMA-WSM
DAMA-WSW
DAMA-CS
DAMA-CSC-B
DAMA-CSM
DAMA-CSS
DALO
DAEN-ZCE
DAMH
NGB
DAAR
DASG
NAVY
AIR FORCE

DEPARTMENT OF THE ARMY

JUSTIFICATION OF ESTIMATES FOR FISCAL YEAR 1980

SUBMITTED TO CONGRESS

JANUARY 1979



PART 3 OF 5 PARTS
(WEAPONS & TRACKED
COMBAT VEHICLES)

PROCUREMENT

PROGRAMS

AIRCRAFT

MISSILES

WEAPONS & TRACKED COMBAT VEHICLES

AMMUNITION

OTHER

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DEPARTMENT OF THE ARMY
Office of the Deputy Chief of Staff
For
RESEARCH, DEVELOPMENT AND ACQUISITION

22 January 1979

DEPARTMENT OF THE ARMY

PROCUREMENT APPROPRIATIONS

Justification of Estimates for Fiscal Year 1980, 81(Auth only)

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DEPARTMENT OF THE ARMY

PROCUREMENT OF WEAPONS AND TRACKED COMBAT VEHICLES, ARMY

JUSTIFICATION OF ESTIMATES FOR FISCAL YEAR 1980, 1981

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PROCUREMENT OF WEAPONS AND TRACKED COMBAT VEHICLES, ARMY

Section 1

Budget Appendix Extract

Language

Program and Financing Schedule

Object Classification Schedule

APPROPRIATION LANGUAGE

For construction, procurement, production, and modification of weapons and tracked combat vehicles, equipment, including ordnance, spare parts, and accessories therefor, specialized equipment and training devices; expansion of public and private plants, including the land necessary therefor, without regard to section 4774, title 10, United States Code, for the foregoing purposes, and such lands and interest therein, may be acquired, and construction prosecuted thereon prior to approval of title as required by section 355, Revised Statutes, as amended; and procurement and installation of equipment, appliances, and machine tools in public and private plants; reserve plant and Government and contractor-owned equipment layaway; and other expenses necessary for the foregoing purposes; \$1,511,100,000 \$1,888,900,000, to remain available for obligation until September 30, 1981 1982. (1) (2)

(10 U.S.C. 2353, 3012, 4531, 4532, 31 U.S.C. 649c; Department of Defense Appropriation Act, 1979; additional authorizing legislation to be proposed.)

EXPLANATION OF LANGUAGE CHANGES

- (1) To change the amount of appropriation requested for FY 1980.
- (2) To change the obligation expiration date for the FY 1980 program.

22 JAN 79

Procurement of Weapons and Tracked Combat Vehicles, Army

Army

Program and Financing (In thousands of dollars)							
Identification code	21-2033-0-1-051	Budget plan (amounts for procurement actions programmed)		Obligations			
		1978 actual	1979 est.	1980 est.	1978 actual	1979 est	1980 est
Program by activities:							
Direct:							
1. Tracked combat vehicles							
2. Weapons and other combat vehicles							
Total direct							
Reimbursable program (total)							
10.00	Total	1,342,763	1,402,800	1,692,500	1,313,509	1,387,199	1,574,876
		65,600	108,300	195,400	83,034	96,225	169,000
		1,408,363	1,511,100	1,888,900	1,395,543	1,483,424	1,642,376
		377,935	414,000	504,400	348,486	331,576	476,121
	Total	1,786,298	1,925,100	2,393,300	1,745,439	1,815,000	2,119,000
Financing:							
Offsetting collections from:							
11.00	Federal funds	-94,289	-103,500	-53,800	-57,806	-101,200	-53,800
13.00	Trust funds	-283,511	-310,500	-450,600	-242,858	-308,600	-450,600
14.00	Non-federal sources	-185			-922		
21.40	Unobligated balance available, start of year:						
	For completion of prior year budget plans						
	Reprogramming from or to prior year budget plans	-73,527			-118,390	-309,614	-415,514
23.40	Unobligated balance transferred to other accounts	14,910					
24.40	Unobligated balance available, end of year:				14,310		
	For completion of prior year budget plans						
26.00	Unobligated balance lapsing	58,617			309,614	415,514	489,814
					58,617		
		1,408,563	1,511,100	1,888,900	1,408,563	1,511,100	1,888,900
Budget authority							
Budget authority:							
40.00	Appropriation	1,421,200	1,511,100	1,888,900	1,421,200	1,511,100	1,888,900
41.00	Transferred to other accounts	-12,637			-12,637		
43.00	Appropriation (adjusted)	1,408,563	1,511,100	1,888,900	1,408,563	1,511,100	1,888,900
Relation of obligations to outlays:							
71.00	Obligations incurred, net	1,443,813			1,443,813	1,405,200	1,814,600
72.40	Obligated balance, start of year	1,258,484			1,258,484	1,897,597	2,455,597
74.40	Obligated balance, end of year	-1,897,397			-1,897,397	-2,455,597	-3,119,197
77.00	Adjustments in expired accounts	-7,609			-7,609		
80.00	Outlays	837,296			837,296	847,000	1,151,000

Army

Procurement of Weapons and Tracked Combat Vehicles, Army

22 JAN 79

Object Classification (in thousands of dollars)			
Identification code	21-2033-0-1-051	1978 actual	1979 est.
Direct obligations:			
22.0	Transportation of things	5,458	
25.0	Other services:		
	Other	198,950	204,800
26.0	Supplies and materials	253,100	296,530
31.0	Equipment	858,035	982,024
	Total direct obligations	1,596,543	1,483,424
Reimbursable obligations:			
22.0	Transportation of things	600	
25.0	Other services:		
	Other	38,100	51,300
26.0	Supplies and materials	55,800	74,400
31.0	Equipment	234,396	205,875
	Total reimbursable obligations	348,496	331,576
99.0	Total obligations	1,745,439	1,815,000

Army		Procurement of Weapons and Tracked Combat Vehicles, Army		22 JAN '9		
Identification code 21-2033-0-1-051		Program and Financing (in thousands of dollars)		1976 Fiscal year Program		
		Budget plan (amounts for procurement actions programmed)		Obligations		
		1978 actual	1979 est.	1980 est.	1979 est.	1980 est.
Program by activities:						
Direct:						
1. Tracked combat vehicles						
2. Weapons and other combat vehicles						
10.00	Total	10,280	11,375	21,655		
Financing:						
Offsetting collections from:						
11.00	Federal funds	14,413	39,315	-417		
13.00	Trust funds					
14.00	Non-federal sources					
21.40	Unobligated balance available, start of year:					
	For completion of prior year budget plans					
	Reprogramming from or to prior year budget plans					
23.40	Unobligated balance transferred to other accounts					
28.00	Unobligated balance lapsing	11,405	39,724			
	Budget authority					

Army		Procurement of Weapons and Tracked Combat Vehicles, Army		22 JAN 79	
		Program and Financing (in thousands of dollars)		1979 Fiscal year program	
Identification code 21-2033-0-1-051		Budget plan (amounts for procurement actions programmed)		Commitments	
		1978 actual	1979 est.	1978 actual	1979 est.
Program by activities:					
Direct:					
1. Tracked combat vehicles					
2. Weapons and other combat vehicles					
Total direct					
Reimbursable program (total)					
10.00	Total	.....	.....	1,040	.....
		.....	.....	753	.....
		.....	.....	1,803	.....
		.....	.....	-1,471	.....
		.....	.....	332	.....
Financing:					
Offsetting collections from:					
11.00	Federal funds	.....	.....	4,660	.....
13.00	Trust funds	.....	.....	6,250	.....
21.40	Unobligated balance available, start of year:	.....	.....	-33,640	.....
	For completion of prior year budget plans	.....	.....	.....	.....
23.40	Reprogramming from or to prior year budget plans	-22,398	.....	.....	.....
25.00	Unobligated balance transferred to other accounts	3,505	.....	3,505	.....
	Unobligated balance lapsing	16,893	.....	16,893	.....
	Budget authority	.....	.....	.....	.....

Army	Procurement of Weapons and Tracked Combat Vehicles, Army Program and Financing (in thousands of dollars)	22 JAN 75	1977 Fiscal Year Program

Identification code	21-2033-0-1-051	Program and Financing (in thousands of dollars)				1977 Fiscal year program	
		Budget plan (amounts for procurement actions programmed)				Obligations	
		1978 actual	1979 est.	1980 est.	1978 actual	1979 est.	1980 est.
Program by activities:							
Direct:							
1.	Tracked combat vehicles	..	..	..	86,206	84,844	..
2.	Weapons and other combat vehicles	..	..	..	21,119	8,302	..
Total direct		..	..	..	107,325	93,146	..
Reimbursable program (total)		..	..	..	24,295	17,601	..
Total		..	..	..	131,620	110,747	..
Financing:							
Offsetting collections from:							
11.00	Federal funds	..	..	..	17,388	2,300	..
13.00	Trust funds	..	..	..	-4,952	1,900	..
14.00	Non-federal sources	..	..	..	-350	..	..
21.40	Unobligated balance available, start of year:	..	..	..	-258,653	-111,947	..
24.40	For completion of prior year budget plans	..	..	..	..	..	..
24.40	Unobligated balance available, end of year:	..	..	..	111,947	..	..
24.40	For completion of prior year budget plans	..	..	..	..	..	..
Budget authority		..	..	..	..	..	..

Army Procurement of Weapons and Tracked Combat Vehicles, Army 22 JAN 79

Program and Financing (in thousands of dollars)		1979 Fiscal year program	
Identification code	21-2033-0-1-051	Budget plan (amounts for procurement actions program:2)	Obligation
		1978 actual	1979 est. 1980 est. 1979 actual 1979 est. 1980 est
Program by activities:			
Direct:			
1.	Tracked combat vehicles	1,342,763	1,215,983 20,119 106,667
2.	Weapons and other combat vehicles	65,800	49,777 15,023 6,300
	Total direct	1,408,563	1,265,760 30,142 112,963
	Reimbursable program (total)	377,935	326,072 12,165 39,993
	Total	1,786,498	1,591,832 42,311 152,956
Financing:			
Offsetting collections from:			
11.00	Federal funds	-94,269	-94,269
13.00	Trust funds	-283,511	-283,511
14.00	Non-federal sources	-155	-155
21.40	Unobligated balance available, start of year:		
24.40	For completion of prior year budget plans		
24.40	Unobligated balance available, end of year:		
24.40	For completion of prior year budget plans		
	Budget authority	1,408,563	1,408,563
Budget authority:			
40.00	Appropriation	1,421,200	1,421,200
41.00	Transferred to other accounts	-12,637	-12,637
43.00	Appropriation (adjusted)	1,408,563	1,408,563

PROCUREMENT OF WEAPONS AND TRACKED COMBAT VEHICLES, ARMY

Section 2

Introductory Statement

3-11 - 1/22/79

DEPARTMENT OF THE ARMY
ANNUAL BUDGET ESTIMATES

Appropriation: PROCUREMENT OF WEAPONS AND TRACKED COMBAT VEHICLES, ARMY	FY 1980, 81
	Budget

Section 2 - Introductory Statement

This appropriation finances the acquisition of tanks; mortar, cargo, and command post carriers; fighting vehicles; combat engineer vehicles; recovery vehicles; self-propelled and towed howitzers; machine guns; mortars; modification of in-service equipment; spares and repair parts; production base support; and depot maintenance facilities equipment.

The 1980 program provides for continued procurement of XM1 and M60 series tanks; mortar and cargo carriers; recovery vehicles; combat engineer vehicles; 155mm self-propelled and towed howitzers; and machine guns. Also funds are provided for initial production of the infantry and cavalry fighting vehicles and the XM252 81mm mortar. Funds are also included for modification of M60 series tanks, self-propelled howitzers, recovery vehicles, mortar and personnel carriers, and armored vehicle launcher bridge (AVLB). Funding resources are provided to continue facilitization of XM1 production locations and rehabilitation of other production facilities.

The 1981 program provides for continued procurement of XM1 tanks; infantry and cavalry fighting vehicles; mortar, cargo, and command post carriers; 155mm towed howitzers; machine guns; and mortars. Funds are also included for modifications of M60 series tanks; self-propelled howitzers; recovery vehicles; mortar and personnel carriers; and armored vehicle launcher bridge (AVLB). Funding resources are provided for continued facilitization of XM1 tank production locations and rehabilitation of other production facilities.

PROCUREMENT OF WEAPONS AND TRACKED COMBAT VEHICLES, ARMY

Section 3

SUMMARY OF REQUIREMENTS

3-13 - 1/22/79

SUMMARY OF REQUIREMENTS (In Thousands of Dollars)

Appropriation:	FY 1978 Actual	FY 1979 Estimate	FY 1980 Estimate
Procurement of Weapons & Tracked Combat Vehicles, Army			
Tracked combat vehicles.....	\$1,342,763	\$1,402,800	\$1,692,500
Weapons and other combat vehicles.....	65,800	108,300	196,400
TOTAL DIRECT PROGRAM.....	\$1,408,563	\$1,511,100	\$1,888,900
Reimbursable Program.....	377,935	414,000	504,400
TOTAL PROGRAM REQUIREMENTS.....	\$1,786,498	\$1,925,100	\$2,393,300
Less: Portion of program to be obligated in subsequent fiscal years.....	194,666	263,158	325,493
Plus: Obligation incurred against prior year program funds.....	153,607	153,058	251,193
TOTAL OBLIGATIONS.....	\$1,745,439	\$1,815,000	\$2,319,000

SUMMARY OF REQUIREMENTS (In Thousands of Dollars)

<u>Appropriation:</u>	<u>FY 1981 Estimate</u>
<u>Procurement of Weapons & Tracked Combat Vehicles, Army</u>	
Activity 1 - Tracked Combat Vehicles.....	\$1,818,400
Activity 2 - Weapons and Other Combat Vehicles.....	430,400
 TOTAL DIRECT PROGRAM	 \$2,248,800

PROCUREMENT OF WEAPONS AND TRACKED COMBAT VEHICLES, ARMY

Section 4

Budget Activity Justifications

Activity 1 - Tracked Combat Vehicles

Activity 2 - Weapons and Other Combat Vehicles

Department of the Army Annual Budget Estimates JUSTIFICATION	Appropriation		FY 1980	
	Procurement of Weapons & Tracked Combat Vehicles, Army		Budget	
	(In Thousands of Dollars)			
	Actual Fiscal Year 1978	Estimate Fiscal Year 1979	Fiscal Year 1980	
Budget Program or Budget Project Account				
Activity 1 - Tracked Combat Vehicles				
Direct Obligations or Direct Budget Plan	\$ 1,342,763	\$ 1,402,800	\$ 1,692,500	

Section 1 - PURPOSE AND SCOPE

Provides for procurement of tracked combat vehicles including tanks, infantry and cavalry fighting vehicles, self-propelled artillery, recovery vehicles, combat engineer vehicles, mortar and cargo carriers, and associated equipment. The request also provides for modification kits, major assembly repair parts (including initial provisioning), related production base support and depot maintenance facilities equipment.

Section 2 - JUSTIFICATION OF FUNDS REQUESTED

Tracked Combat Vehicles - The requested funding level provides for continued procurement of the following tracked combat vehicles: M60 series tank and XM1 tank to qualitatively improve the tank inventory and to meet tank fleet modernization goals; M88A1 medium recovery vehicle to maintain a proper support ratio with increasing tank strength; M728 combat engineer vehicle; M548 cargo carrier, M125A1 mortar carrier, and the M109A2 self-propelled howitzer to improve near term readiness and sustainability. The request will also provide for the initial production of infantry and cavalry fighting vehicles. To further improve and enhance Army materiel readiness of high priority combat vehicles funds are requested for the following modification programs: Upgrade of the current fleets of M88 recovery vehicles and M113 family of carriers; enhancement of tube launched, optically tracked, wire-guided (TOW) missile launchers on M113A1 carriers, purchase and installation of transporter/loader for the surface-launched unit fuel-air explosive (SLUFAC) system, and procurement of launchers and scissor bridges and modification of M48 chassis for the armored vehicle launcher bridge (AVLB) system. Each of the major items included in this request is discussed below:

Carrier, Cargo, Tracked, M548 - \$42.1 million will procure 441 carriers of which 145 will serve as chassis for the SLUFAC system, 65 as carriers for electronic warfare equipment, and the remaining 231 are required for the conventional role of ammunition carriers for self-propelled artillery units. The resultant asset posture is 50 percent of the acquisition objective.

Carrier, 81mm Mortar, M125A1 - \$5.4 million is requested to procure 52 vehicles to serve as carriers for the 81mm mortar. These carriers are required to provide cross-country mobility for organic fire support elements of mechanized and armored forces. The resultant asset posture is 69 percent of the acquisition objective.

FORMAT A

Department of the Army Annual Budget Estimates		FY 1980
JUSTIFICATION		Budget
Appropriation	Budget Program or Budget Project Account	
Procurement of Weapons & Tracked Combat Vehicles, Army	Activity 1 - Tracked Combat Vehicles	

Infantry Fighting Vehicle, XM2 - \$100.3 million is requested for initial production of 119 XM2 infantry fighting vehicles (IFV). The IFV is designed to be compatible with the new XM1 main battle tank and provide improved fire power, cross-country mobility, and ballistic protection. The armament is designed to engage an array of enemy targets and will include a two-man turret employing a 25mm automatic cannon, the tube-launched, optically-tracked, wire-guided (TOW) antitank guided missile system, and a 7.62mm coaxial machine gun, all utilizing an integrated day/night thermal sight. Using the organic 5.56mm firing port weapon, the mounted infantry will be able to deliver suppressive fires around the vehicle.

Cavalry Fighting Vehicle, XM3 - \$70.1 million is requested for initial production of 89 XM3 cavalry fighting vehicles (CFV). The CFV is the same basic vehicle as the IFV, except for the elimination of the firing port weapon. Interior configuration varies from the IFV to allow for differences in crew size and storage requirements. The CFV will provide armored cavalry and battalion scout squads with the protected cross-country mobility and vehicular mounted firepower required to perform reconnaissance and security missions.

Howitzer, Med, SP, FT, 155mm, M109A2 - \$46.4 million is requested for procurement of 96 M109A2 howitzers as the fourth year of a multiyear procurement. The resultant asset posture is 77 percent of the acquisition objective.

Recovery Vehicle Med, FT, M88A1 - \$46.3 million is requested to procure 67 M88A1 recovery vehicles. This vehicle is a full-tracked, armored recovery vehicle which performs vehicle rescue and recovery operations on the battlefield. This is the only vehicle in the Army inventory capable of performing battlefield recovery and repair of the tank. The resultant asset posture is 84 percent of the acquisition objective.

Combat Engineer Vehicle, M728 - \$51.5 million is requested to procure 56 M728 combat engineer vehicles (CEV). The CEV is used by combat engineer units in the forward battle area for clearing obstacles, attacking fortifications, preparing defensive positions, hasty engineer and construction work. The CEV is produced on the M60 production line and FY 80 is the last scheduled operation of this production line. The resultant asset posture is 83 percent of the acquisition objective.

Tank, Combat, Full-Tracked, 105mm Gun, M60 Series - \$216.8 million is requested for the procurement of 251 M60A3 tanks. Procurement of these tanks will enable the Army to continue its high priority effort to increase the tank inventory both quantitatively and qualitatively. The M60 and XM1 procurement will enable the Army to achieve 71 percent of its acquisition objective with prime 105mm or larger gun tanks by the end of the FY80 funded delivery period. The M60 series tank is the current primary weapon system of armor battalions and will be used primarily in the offensive role to counter the tank threat until the entry of the XM1 in sufficient quantities into the active force structure.

Department of the Army Annual Budget Estimates		FY 1980
JUSTIFICATION		Budget
Appropriation	Budget Program or Budget Project Account	
Procurement of Weapon & Tracked Combat Vehicles, Army	Activity 1 - Tracked Combat Vehicles	

Tank Combat, FT, 105mm, Gun XM1 - \$576.9 million is requested for procurement of 352 XM1's. The XM1 tank will be a qualitatively superior tank to the M60 series tanks. It will have significantly improved survivability provided by improved ballistic protection and compartmentalization of ammunition and fuel. Its 1500 hp turbine engine and improved suspension system will provide greater cross-country speed and shoot-on-the-move capability. The XM1 tank will become the Army's primary weapon system for armor battalions and is needed to counter the threat of the 1980s and 1990s.

Advance Procurement, Tank Combat, FT, 105mm Gun, XM1 - \$70.7 million is requested for procurement of long leadtime manufacturing items, components, and government furnished equipment to support the FY 1981 production of XM1 tanks.

Training Equipment for Tank, XM1 - \$18.4 million is requested for procurement of training equipment required in the XM1 crew and maintenance personnel training program. Use of training equipment permits more efficient utilization of training areas and provides continuous training of personnel which reduces wear on actual equipment.

Carrier, Modification (MOD) - \$35.1 million will convert 1227 of the current gasoline-powered carrier family assets to diesel power. During the conversion, three other improvements will also be applied; i.e., improved suspension, improved cooling, and external fuel cells. This request funds the acquisition of 970 additional improved suspension and cooling kits and 1238 external fuel cells for field application in support of the conventional carrier overhaul program in Europe.

M548 MOD Program (MOD) - \$5.4 million is requested for the purchase of 60 transporter/loaders for the surface-launched unit fuel-air explosive (SLUFAE) rocket system. These transporter/loaders when coupled with the M548 carrier chassis mounted launcher compose the SLUFAE system.

Improved Tube-launched, Optically-tracked, Wire-guided (TOW) Vehicle (ITV) (MOD) - \$63.7 million will procure 500 ITV kits and provide for their respective installation costs on M113A1 Carriers. These kits will be procured under competitive solicitation.

Howitzer, Med, Arm, SP, FT, 155mm, M109A1 (MOD) - \$20.3 million is requested to continue the upgrading of the basic M109A1 howitzers to M109A3s. During the FY 1980 funded delivery period 471 M109A1s will be converted, bringing total A2/A3 assets to 1940. During the conversion, four other improvements will also be applied; i.e., boresight alignment device, thermal warning device, compatibility with the M203 propelling charge, and intercom filter device.

Howitzer, Heavy, SP, FT, 8-inch, M110 Series (MOD) - \$8.4 million is requested to complete action on the reliability, availability, and maintainability (RAM) improved gun mount program and continue efforts on the boresight-alignment device and the crew ballistic protection.

Department of the Army Annual Budget Estimates		FY 1980
JUSTIFICATION		Budget
Appropriation	Budget Program or Budget Project Account	
Procurement of Weapon & Tracked Combat Vehicles, Army	Activity 1 - Tracked Combat Vehicles	

Recovery Vehicle M88 (MOD) - \$1.6 million is requested for engineering and product assurance support costs to include final documentation of the modification program which converted the gasoline-powered vehicles to the dieselized configuration.

Armored Vehicle Launcher Bridge (AVLB) (MOD) - \$29.2 million is requested to convert 43 M48 tank chassis to an AVLB configuration and to procure 104 launchers and 48 scissor-type bridges. Modification of M48 chassis to an upgraded dieselized configuration will provide needed AVLB vehicles at less cost than procurement of new M60 AVLB chassis. The resultant asset posture is 80% of the acquisition objective.

Tank, Combat, FT, 105mm Gun, M60 Series (MOD) - \$117.4 million is requested to procure 500 modification kits for conversion of M60A1 tanks to the M60A3 configuration. These kits will improve main gun hit probability and capabilities for night operations as well as enhance tank reliability, availability, and maintainability. Requested funds will procure gun stabilization kits, laser rangefinder, solid state ballistic computers, and passive image intensification night sights for the tank commander, passive tank thermal sight for the gunner, and passive night viewers for the tank driver. The request will also provide for continued procurement of improved air cleaners, reliability engine kits, and electrical system component kits.

Spares and Repair Parts - \$106.2 million is requested for procurement of initial and replenishment spares and repair parts related to tracked combat vehicles.

Items less than \$900,000 - \$0.8 million is requested for procurement of maintenance and repair equipment for tracked combat vehicles.

Production Base Support - \$52.9 million is requested for production base support. The major emphasis for the FY80 production base support program (PBS) is centered around providing facilities for manufacturing the XM1 tank. This effort accounts for \$45.1 million of the \$52.9 million requested. The objective of this project is to continue to equip and/or rehabilitate the Lima Army Modification Center, Lima, Ohio; the US Army Tank Plant, Warren, MI; the Stratford Army Engine Plant; and subcontractor facilities for production of the XM1 Tank. Provisioning of the facilities will be accomplished by rehabilitating, purchasing, and installing industrial plant equipment and office equipment plus other miscellaneous items of low dollar value. The FY80 request also includes \$2.9 million for layaway of equipment excess to production, \$4.3 million for manufacturing methods and technology, and \$0.6 million for military adaptation of commercial items.

Depot Maintenance Facilities Equipment - \$6.6 million is requested to procure capital investment equipment required to support depot maintenance operations associated with tracked combat vehicles. The requirement for equipment arises from new mission assignment projections, increased workload, facility modernization, and age/wear considerations.

Department of the Army Annual Budget Estimates JUSTIFICATION	Appropriation		FY 1980
	Procurement of Weapons & Tracked Combat Vehicles, Army		Budget
Budget Program or Budget Project Account	(In Thousands of Dollars)		
Activity 1 - Tracked Combat Vehicles	Estimate		
	Fiscal Year 1981		
Direct Obligations or Direct Budget Plan	\$ 1,818,400		

Section 1 - PURPOSE AND SCOPE

Provides for procurement of tracked combat vehicles including tanks; infantry and cavalry fighting vehicles; self-propelled artillery; recovery vehicles; command post, mortar and cargo carriers; and associated equipment. The request also provides for modification kits, major assembly repair parts (including initial provisioning), related production base support, and depot maintenance facilities equipment.

Section 2 - JUSTIFICATION OF FUNDS REQUESTED

Tracked Combat Vehicles - The requested funding level provides for continued procurement of the following tracked combat vehicles: XM1 tank, M548 cargo carrier, M577A1 command post carrier, M106A1 4.2-in mortar carrier, XM2 infantry fighting vehicle, and XM3 cavalry fighting vehicle to meet modernization goals and improve near term readiness and sustainability. To further improve and enhance Army materiel readiness of high priority combat vehicles the following modification programs are continued: dieselization of the M113 family of carriers and the current gasoline-powered M88 tank recovery vehicle; modification of the M110 and M109 series howitzers; modernization of the fielded M60 series tank fleet; and purchase and installation of tube-launched optically-tracked wire-guided (TOW) missile launchers on M113A1 armored carriers, purchase of launchers and transporter/loaders for the surface-launched unit fuel-air explosive (SLUFAC) system, and procurement of launchers and scissor bridges for the armored vehicle launcher bridge (AVLB) system. Each of the major items included in this request is discussed below:

Carrier, Cargo, Tracked, M548 - \$36.9 million will procure 367 M548 carriers, of which 84 are required for the SLUFAC mission, and 283 are required for the conventional role of ammunition carrier for self-propelled artillery units. The resultant asset posture is 56 percent of the acquisition objective.

Carrier, Command Post, Light, FT, M577A1 - \$9.8 million is requested to procure 92 M577A1 command post carriers. This is a M113 family vehicle which serves as a fire direction center for self-propelled artillery units and as a mobile command post in mechanized and armored units. The resultant asset posture is 69 percent of the acquisition objective.

Carrier, 4.2-inch Mortar, SP, FT, M106A1 - \$17.2 million is requested to procure 142 M106A1 mortar carriers. This vehicle is required to provide cross-country mobility for organic fire support elements of mechanized and armored battalion-sized units. The resultant asset posture is 68% of the acquisition objective.

Department of the Army Annual Budget Estimates		FY 1980
JUSTIFICATION		Budget
Appropriation		Budget Program or Budget Project Account
Procurement of Weapons and Tracked Combat Vehicles, Army		Activity 1 - Tracked Combat Vehicles

Infantry Fighting Vehicle, XM2 - \$216.9 million is requested to procure 363 XM2, infantry fighting vehicles (IFV). The IFV is designed to be compatible with the new XM1 main battle tank, with improved fire power, cross-country mobility, and ballistic protection. The armament is designed to engage an array of enemy targets and will include a two-man turret employing a 25mm automatic cannon, the tube-launched, optically-tracked, wire-guided (TOW) antitank guided missile system, and a 7.62mm coaxial machine gun, all utilizing an integrated day/night thermal sight. Using the organic 5.56mm firing port weapon, the mounted infantry will be able to deliver suppressive fires around the vehicle.

Cavalry Fighting Vehicles, XM3 - \$21.7 million will procure 37 XM3, cavalry fighting vehicles (CFV). The CFV is the same basic vehicle as the IFV, except for the elimination of the firing port weapon. Interior configuration varies from the IFV to allow for differences in crew size and storage requirements. The CFV will provide armored cavalry and battalion scout squads with protected cross-country mobility and vehicular mounted firepower required to perform reconnaissance and security missions.

Tank, Combat, FT, 105mm, Gun, XM1 Series - \$890.9 million is requested for procurement of 591 XM1 tanks. The XM1 will be a highly mobile vehicle with significantly improved survivability provided by improved ballistic protection and compartmentalization. It will mount a large caliber gun and two complementary armament systems with improved fire control and shoot-on-the-move capability. The XM1 tank will become the Army's main battle tank in armor units. It will be used as the primary offensive weapon of the Army's combined arms team to counter the threat of the 1980s and 1990s. Considering all prime tank assets, the asset posture is 74 percent of the acquisition objective.

Advance Procurement, Tank Combat, FT, 105mm Gun, XM1 - \$126.3 million is requested for procurement of long leadtime manufacturing items, components, and government-furnished equipment to support the FY 1982 production of XM1 tanks.

Training Equipment for XM1 Tank - \$29.4 million is requested to procure training equipment for use in XM1 crew and maintenance personnel training programs. Use of training equipment permits more efficient utilization of training areas and provides continuous training of personnel which reduces wear on actual equipment.

Carrier Modifications (MOD) - \$32.7 million will convert the last 988 gasoline-powered carrier family assets to diesel power during scheduled overhaul. This request also includes funds for 1356 kits to provide additional improved suspension and improved cooling.

M548 MOD Program (MOD) - \$18.8 million is requested to procure 155 launchers and transporter/loaders for the surface-launched unit fuel-air explosive (SLUFAE) rocket system. These items when coupled with the M548 carrier chassis compose the SLUFAE system.

Department of the Army Annual Budget Estimates JUSTIFICATION		FY 1980
Appropriation	Budget Program or Budget Project Account	Budget
Procurement of Weapons and Tracked Combat Vehicles, Army	Activity 1 - Tracked Combat Vehicles	

FORMAT A

Improved Tube-launched, Optically-tracked, Wire-guided (TOW) Vehicle (ITV) (MOD) - \$79.9 million is requested to procure 540 kits for installation on M113A1 carriers. The resultant asset posture is 71 percent of the acquisition objective.

Howitzer, Med, Army, SP, 155mm, M109A1 (MOD) - \$8.5 million is requested to complete the upgrading of the basic M109 series howitzers to M109A3s. The product improvement will improve RAM characteristics and enhance operational efficiency. Included in the request are 1259 thermal warning kits, completing procurement of this kit.

Howitzer, Heavy, SP, FT, 8-Inch M110A2 (MOD) - \$1.0 million is requested for engineering and product assurance support cost on the boresight alignment device and to continue efforts to provide the crew with ballistic protection.

Recovery Vehicle, Med, M88 (MOD) - \$0.3 million is requested for engineering and product assurance support costs necessary to complete the Technical Data Package.

Armored Vehicle Launcher Bridge (AVLB) (MOD) - \$2.5 million is requested to procure 10 launchers and 10 scissor-type bridges which are components of the AVLB system.

Tank, Combat, FT, 105mm Gun, M60 Series (MOD) - \$129.9 million is requested to procure 500 modification kits for conversion of M60A1 tanks to the M60A3 configuration. These kits will improve main gun hit probability and capabilities for night operations as well as enhance tank reliability, availability, and maintainability. Requested funds will procure gun stabilization kits, laser rangefinders, solid state ballistic computers, fire control night sights and driver's passive night viewers and continue procurement of improved air cleaners, reliability engine kits, and electrical system component kits.

Spares and Repair Parts - \$109.5 million is requested for procurement of initial and replenishment spares and repair parts items related to tracked combat vehicles.

Items Less Than \$900,000 - \$0.9 million is requested for the procurement of maintenance and repair equipment for tracked combat vehicles.

Department of the Army Annual Budget Estimates		FY 1980
JUSTIFICATION		Budget
Appropriation	Budget Program or Budget Project Account	
Procurement of Weapons and Tracked Combat Vehicles, Army	Activity 1 - Tracked Combat Vehicles	

FORMAT A

Production Base Support - \$83.5 million is requested for production base support. The major emphasis is the completion of production facilities for the XM1 tank. This effort requires \$72.5 million and will complete the facilitization of the Lima Army Modification Center, Lima, OH; US Army Tank Plant, Warren, MI; and various subcontractor facilities. This effort will provide the US with a tank production base with a surge capacity of 150 XM1 tanks per month. The balance of the request provides \$5.3 million for layaway of the M60 series tank and M88 recovery vehicle production lines, and \$5.7 million for various manufacturing methods and technology projects for adaptation of commercial items for military use.

Depot Maintenance Facilities Equipment - \$1.8 million is requested to procure capital investment equipment required to support depot maintenance operations associated with tracked combat vehicles. The requirement for equipment arises from new mission assignment projections, increased workload projections, facility modernization and age/wear considerations.

FORMAT J

Department of the Army Annual Budget Estimates JUSTIFICATION	Appropriation		FY 1980	
	Procurement of Weapons & Tracked Combat Vehicles, Army		Budget	
	(In Thousands of Dollars)			
Budget Program or Budget Project Account	Actual	Estimate	Fiscal Year 1979	Fiscal Year 1980
Activity 2 - Weapons and Other Combat Vehicles	Fiscal Year 1978			
Direct Obligations or Direct Budget Plan	\$ 65,800	\$ 108,300		\$ 196,400

Section 1 - PURPOSE AND SCOPE

Provides for procurement of weapons and other combat vehicles including towed artillery, mortars, machine guns, and associated equipment. The request provides for modification kits, major assembly repair parts, related production base support, and depot maintenance facilities equipment.

Section 2 - JUSTIFICATION OF FUNDS REQUESTED

Weapons and Other Combat Vehicles - The requested funding level provides for production of the M198 howitzers; initial procurement of the XM252 81mm mortar (British L16A2 mortar); the M240 machine gun; the radar chronograph; and the initial procurement of the vehicle rapid fire weapon system (BUSHMASTER), and firing port weapon. The request also provides for procurement of smoke grenade launchers for combat vehicles. Each of the major items included in this request is discussed below:

Howitzer, Med, Towed, 155mm, M198 - \$54.7 million is requested to procure 208 M198 howitzers. The 208 howitzers will be distributed to fill priority units. The howitzers will provide the Army with the range required to counter known threats. The resultant asset posture is 61 percent of the acquisition objective.

Armor, Machine Gun, 7.62mm, M240 - \$11.6 million is requested to procure 2970 M240 coaxial machine guns for secondary armament on combat vehicles and to replace obsolete M219 machine guns presently in use. This weapon will be mounted on the M60 series tank, the XM1 tank, the infantry fighting vehicle/cavalry fighting vehicle (IFV/CFV), as well as other combat vehicles. The resultant asset posture is 30 percent of the acquisition objective. These weapons will be procured as the second year of a five-year multi-year procurement.

Chronograph, Radar, XM90 - \$5.7 million is requested to procure 276 radar chronographs. This is the fourth year of a five-year buy. There will be one chronograph used in each field artillery battery in order to improve firing accuracy. The resultant asset posture is 73 percent of the acquisition objective.

Mortar, 81mm, XM252 - \$10.5 million is requested to initiate procurement of 780 XM252 81mm mortars to replace the M29 series 81mm mortar as the company mortar for mechanized infantry and the M30 4.2-inch mortar as the battalion mortar for nonmechanized infantry. The barrel and bipod are purchased from the United Kingdom and are combined with a US produced sight and baseplate to produce the XM252 mortar.

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Department of the Army Annual Budget Estimates JUSTIFICATION		FY 1980
Appropriation	Budget Program or Budget Project Account	Budget
Procurement of Weapons & Tracked Combat Vehicles, Army	Activity 2 - Weapons and Other Combat Vehicles	

FORMAT A

Vehicle Rapid Fire Weapons System (VRFWS) (BUSHMASTER) - \$37.0 million is requested for the initial procurement of the 25mm VRFWS, BUSHMASTER. These funds will procure 310 weapons. The VRFWS is the primary armament for the infantry and cavalry fighting vehicles.

Firing Port Weapon - \$4.0 million is requested for the initial procurement of 3,168 XM231 5.56mm firing port weapons. This submachine gun is a derivative of the M16A1 rifle. Six weapons will be mounted in the squad compartment of the infantry fighting vehicle with two weapons on each side and the rear.

Launcher Smoke Grenade (MOD) - \$8.7 million is requested to continue procurement of protective smoke systems for application to tracked combat vehicles. This system which can provide a smoke screen in two to three seconds is an excellent defense against antitank missiles.

Modifications Under \$900,000 - \$5.5 million is requested to improve the current M29 series 81mm mortar baseplates to reduce displacement in sandy soil and eliminate socket seizure problems. The improved baseplate will be applied only to those mortars which will remain in the Army inventory following procurement of the XM252 mortar.

Spares and Repair Parts - \$7.2 million is requested for procurement of replenishment spares and repair parts related to Weapons and Other Combat Vehicles.

Items Less Than \$900,000 - \$2.1 million is requested for procurement value of less than \$900,000 of shop equipment, maintenance tool sets, and tool kits for weapon and combat vehicles as well as machine gun mounts.

Production Base Support - Production base support programs require \$53.9 million, of which \$31.0 million is for modernization of the cannon production base at Watervliet Arsenal. Additionally, \$14.1 million is being requested for equipment rehabilitation/replacement projects at Watervliet and Rock Island Arsenal, Ethan Allen Firing Range, and for the Government-owned equipment used in production of small arms at General Electric Corporation. Also included in the request is \$8.8 million for layaway of excess equipment, manufacturing methods and technology projects, and adaptation of commercial items.

Depot Maintenance Facilities Equipment (DMFE) - \$0.5 million is requested for procurement of capital equipment required to support depot maintenance operations associated with weapons and other combat vehicles. Requirements represent new mission assignment projections, projected increased workload, facility modernization, and age/wear considerations.

Department of the Army Annual Budget Estimates JUSTIFICATION Budget Program or Budget Project Account Activity 2 - Weapons and Other Combat Vehicles Direct Obligations or Direct Budget Plan	Appropriation		FY 1980
	Procurement of Weapons & Tracked Combat Vehicles, Army Budget		
	(In Thousands of Dollars)		
		Estimate	
		Fiscal Year 1981	
			\$ 430,400

Section 1 - PURPOSE AND SCOPE

Provides for procurement of weapons and other combat vehicles including air defense weapons, towed artillery, mortars, machine guns, and associated equipment. The request also provides for modification kits, procurement of depot repairable major assembly repair parts (including initial provisioning), related production base support, and depot maintenance facilities equipment.

Section 2 - JUSTIFICATION OF FUNDS REQUESTED

Weapons and Other Combat Vehicles - The requested funding level provides for continued procurement of the M198 howitzers, the XM252 81mm mortar, the firing port and vehicle rapid fire weapon system (VRFWS) BUSHMASTER weapons, the M240 machine gun, and the radar chronograph. Funding is also requested for the initial procurement of the division air defense (DIVAD) gun system. Each of the major items included in this request is discussed below:

DIVAD Gun - \$265.6 million is requested for initial procurement of 12 DIVAD Guns. This system will provide air defense for divisional maneuver elements, against attack by armed helicopters, and high performance, fixed wing aircraft.

Howitzer, Med, Towed, 155mm, M198 - \$14.9 million is requested to procure 50 M198 howitzers. The requested funds provide for a continuation of full scale production. These howitzers, with their increased range capability over those currently in the Army inventory, are required to counter known threats. This is the last scheduled year of a four-year multiyear buy. The resultant asset posture is 69% of the acquisition objective.

Armor, Machine Gun, 7.62mm, M240 - \$17.6 million is requested for procurement of 4274 M240 machine guns. This request will continue procurement from a continental United States (CONUS) producer. The resultant asset posture is 39 percent of the acquisition objective.

Chronograph, Radar, XM90 - \$2.8 million is requested to procure 132 chronographs. This is the final year of a multiyear procurement. This item enables improved firing accuracy. The resultant asset posture is 90% of the acquisition objective.

Mortar, 81mm, XM252 - \$10.8 million is requested to procure 768 XM252 81mm mortars. The improved mortar replaces the M30 4.2-inch mortar as the battalion mortar for nonmechanized infantry and the M29 81mm mortar as the company mortar for mechanized infantry. The system is composed of both United Kingdom and US produced components.

3-27 - 1/22/79

Department of the Army Annual Budget Estimates		FY 1980
JUSTIFICATION		Budget
Appropriation	Budget Program or Budget Project Account	
Procurement of Weapons & Tracked Combat Vehicles, Army	Activity 2 - Weapons and Other Combat Vehicles	

FORMAT A

Vehicle Rapid Fire Weapons System (VRFWS) (BUSHMASTER) - \$19.4 million is requested for the procurement of 480 25mm VRFWS, BUSHMASTER. The BUSHMASTER is the primary armament for the infantry and cavalry fighting vehicles.

Firing Port Weapon - \$11.0 million is requested to complete the procurement of 26,006 XM231 5.56mm firing port weapons. This submachine gun is a derivative of the M16A1 rifle. Six weapons will be mounted in the squad compartment of the infantry fighting vehicle, two on each side and two in the rear.

Launcher Smoke Grenade (MOD) - \$7.5 million is requested to continue procurement of these protective smoke systems for combat vehicles. This is an efficient defense system against antitank missiles.

Spares and Repair Parts - \$16.9 million is requested for procurement of initial and replenishment spares and repair parts related to Weapons and Other Combat Vehicles.

Items Less Than \$900,000 - \$.6 million is requested for procurement of shop sets and tool sets for maintenance and repair of weapons and other combat vehicles.

Production Base Support - Production base support programs require \$63.0 million in FY 1981, of which \$30.8 million continues the modernization of the cannon production base at Watervliet Arsenal. The request includes \$15.4 million for replacement of production equipment and industrial plant equipment at Watervliet and Rock Island Arsenals and \$6.2 million for equipment to produce the 120mm gun at Watervliet Arsenal for the XM1 tank. Additionally, \$10.6 million is being requested for manufacturing methods and technology, layaway of industrial facilities, and military adaptation of commercial items.

Depot Maintenance Facilities Equipment - \$.3 million is required for procurement of capital equipment required to support depot maintenance operations associated with weapons and other combat vehicles. Requirements represent new mission assignment projections, projected increased workload, facility modernization, and age/wear considerations.

PROCUREMENT OF WEAPONS AND TRACKED COMBAT VEHICLES, ARMY

Section 5

Comparison of Program Requirements and Financing

Comparison of FY 1979 program requirements as reflected in FY 1979 budget with FY 1979 program requirements as shown in FY 1980 budget.

Comparison of FY 1979 financing as reflected in FY 1979 budget with FY 1979 financing as shown in FY 1980 budget.

Comparison of FY 1978 program requirements as reflected in FY 1979 budget with FY 1978 program requirements as shown in FY 1980 budget.

Comparison of FY 1978 financing as reflected in FY 1979 budget with FY 1978 financing as shown in FY 1980 budget.

COMPARISON OF FY 1979 PROGRAM REQUIREMENTS
AS REFLECTED IN FY 1979 BUDGET WITH
FY 1979 PROGRAM REQUIREMENTS AS SHOWN IN FY 1980 BUDGET

SUMMARY OF REQUIREMENTS (In Thousands of Dollars)				
Appropriation	Total Program Requirements	Program Requirements Per FY 79 Budget	Program Requirements Per FY 1980 Budget	Increase (+) or Decrease (-)
Procurement of Weapons & Tracked Combat Vehicles, Army				
Activity 1 - Tracked Combat Vehicles	\$1,532,500		\$1,402,800	\$ -129,700
Activity 2 - Weapons and Other Combat Vehicles	104,100		108,300	+ 4,200
TOTAL	\$1,636,600		\$1,511,100	\$ -125,500

Explanation by Activity

Activity 1 - Tracked Combat Vehicles - A net decrease of \$129.7 million resulted from a transfer of \$.4 million from Production Base Support to Activity 2 and final Congressional adjustments (\$129.3 million) to the FY 1979 Budget as follows:

Net Change (in thousands)

Item	Net Change (in thousands)
Carrier, Personnel, M113A1	\$ - 29,700
Tank, Combat, XM1	- 34,600
Tank, Combat, M60 Series	- 38,800
Training Equipment for XM1 Tank	- 18,100
Infantry Fighting Vehicle, XM2	+ 39,000
Carrier Conversion, M106A1 to M125A1 (MOD)	- 1,400
Tank, Combat, M60 Series (MOD)	+ 34,000
First Destination Transportation	- 5,000
Production Base Support (XM1 Facilitization)	- 74,700
TOTAL (Net Change)	\$ -129,300

Activity 2 - Weapons and Other Combat Vehicles - A net increase of \$4.2 million resulted from transfer of \$0.4 million from Activity 1 to the XM90 radar chronograph program (\$0.2 million), the Items Less Than \$900,000 program (\$0.1 million), and the production base support program (\$0.1 million) and from final Congressional adjustments to the FY 1979 Budget as follows:

SUMMARY OF REQUIREMENTS (Cont'd)

Item

Howitzer, M198
Mortar, 81mm, XM252 (L16A2)
Machine Gun, .50 caliber, M2
First Destination Transportation

Net Change (in thousands)

\$ - 3,300	
- 5,000	
+13,200	
<u>- 1,100</u>	
TOTAL (Net Change)	\$ + 3,800

COMPARISON OF FY 1979 FINANCING AS REFLECTED
IN THE FY 1979 BUDGET WITH FY 1979 FINANCING
AS SHOWN IN FY 1980 BUDGET

Appropriation:	(In Thousands of Dollars)		
	Financing Per FY 1979 Budget	Financing Per FY 1980 Budget	Increase (+) or Decrease (-)
Procurement of Weapons & Tracked Combat Vehicles, Army			
Program Requirements (Total).....	\$2,182,000	\$1,925,100	\$ -256,900
Program Requirements (Service account).....	(1,636,600)	(1,511,100)	(-125,500)
Program Requirements (Reimbursable).....	(545,400)	(414,000)	-131,400
Less:			
Anticipated reimbursements.....	545,400	414,000	-131,400
Reprogramming from prior year budget plans.....	0	0	0
Unobligated balance from available from prior year to finance new budget plans.....	0	0	0
Unobligated balance transferred from other accounts...	0	0	0
Add:			
Unobligated balance transferred to other accounts.....	0	0	0
Unobligated balance available to finance subsequent year budget plans.....	0	0	0
Budget Authority	\$1,636,600	\$1,511,100	\$ -125,500
Budget Authority:			
Appropriation.....	\$1,636,600	\$1,511,100	\$ -125,500
Transferred to other accounts.....	0	0	0
Appropriation (adjusted).....	\$1,636,600	\$1,511,100	\$ -125,500

COMPARISON OF FY 1978 PROGRAM REQUIREMENTS
AS REFLECTED IN FY 1979 BUDGET WITH
FY 1978 PROGRAM REQUIREMENTS AS SHOWN IN FY 1980 BUDGET

SUMMARY OF REQUIREMENTS (In Thousands of Dollars)					Increase (+)
Appropriation	Total Program Requirements		Program Requirements		Decrease (-)
Procurement of Weapons & Tracked Combat Vehicles, Army	Per FY 1979 Budget		Per FY 1980 Budget		
Activity 1 - Tracked Combat Vehicles	\$1,370,400		\$1,342,763		\$ -27,637
Activity 2 - Weapons and Other Combat Vehicles	50,800		65,800		+15,000
TOTAL	\$1,421,200		\$1,408,563		\$ -12,637

Explanation by Activity

Activity 1 - Tracked Combat Vehicles - A decrease of \$27.637 million resulted from a reprogramming of \$12.637 million to Missile Procurement, Army (\$3.137 million from the M110 howitzer program and \$9.500 million from the M551 AR/AAV modification program) and a transfer of \$15.0 million to Activity 2 from the M109 howitzer program.

Activity 2 - Weapons and Other Combat Vehicles - An increase of \$15.000 million is the result of transfers from Activity 1 of \$4.800 million to the production base support program, \$4.900 million to the smoke grenade modification program, \$4.900 million to the M240 armor machine gun program, and \$.40 million to items less than \$900 thousand.

COMPARISON OF FY 1978 FINANCING AS REFLECTED
IN THE FY 1979 BUDGET WITH FY 1978 FINANCING
AS SHOWN IN FY 1980 BUDGET

	(In Thousands of Dollars)		
	Financing Per FY 1979 Budget	Financing Per FY 1980 Budget	Increase (+) or Decrease (-)
Appropriation:			
Procurement of Weapons & Tracked Combat Vehicles, Army			
Program Requirements (Total).....	\$1,905,100	\$1,786,498	\$ -118,602
Program Requirements (Service account).....	(1,421,200)	(1,408,563)	(-12,637)
Program Requirements (Reimbursable).....	(483,900)	(377,935)	(-105,965)
Less:			
Anticipated reimbursements.....	483,900	377,935	-105,965
Reprogramming from prior year budget plans.....	0	0	0
Unobligated balance from available from prior year to finance new budget plans.....	0	0	0
Unobligated balance transferred from other accounts...	0	0	0
Add:			
Unobligated balance transferred to other accounts.....	0	0	0
Unobligated balance available to finance subsequent year budget plans.....	0	0	0
Budget Authority	\$1,421,200	\$1,408,563	0
Budget Authority:			
Appropriation.....	\$1,421,200	\$1,421,200	0
Transferred to other accounts.....	0	-12,637	-12,637
Appropriation (adjusted).....	\$1,421,200	\$1,408,563	-12,637

PROCUREMENT OF WEAPONS AND TRACKED COMBAT VEHICLES, ARMY

Section 6

Selected Data Sheets

NOT USED

3-35 - 1/22/79

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DEPARTMENT OF THE ARMY JUSTIFICATION OF ESTIMATES FOR FISCAL YE--ETC(U)
JAN 79

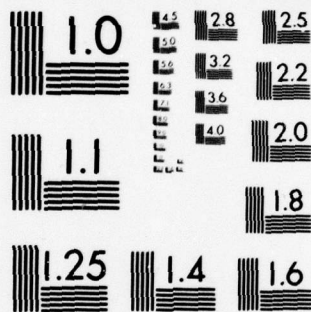
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MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS-1963-A

PROCUREMENT OF WEAPONS AND TRACKED COMBAT VEHICLES, ARMY

Section 7

Analysis of Unobligated Balances

3-36 - 1/22/79

PROCUREMENT OF WEAPONS AND TRACKED COMBAT VEHICLES, ARMY

Analysis of Unobligated Balances - FY 1980 Programs*

Summary by Category

Category	Estimated Unobligated	
	Dollars (Millions)	% of Total Unobligated
1. Reserved to support contracts	\$367.4	75.0
2. Engineering changes	39.2	8.0
3. Other	83.3	17.0
Total Unobligated FY 1980	\$489.8	100.0%

EXPLANATION BY CATEGORY

Based on past experience, it is predicted that the above amount will remain unobligated at the end of FY 80. Reasons for the unobligated balance have been grouped into three general categories, and are detailed below. These unobligated amounts will, therefore, be required in subsequent fiscal years to complete the procurement of the FY 80 program.

1. Reserved to Support Contracts:

- Amounts reserved for incentive contract payments.
- Amounts held to support Product and Component Improvement Programs; modification for retrofit during production; modifications ordered by customers.
- Contractor claims, reserves to cover potential liabilities for contracts containing escalation clauses for labor, or material cost increases and price redeterminations.
- Government-furnished equipment breakout procurements; preparations of manuals and technical data; and reserve for completion of construction elements of production base support facilities projects.
- Delay due to design or testing difficulties.
- Award protests.
- Insufficient procurement detail involving reimbursable orders.
- Develop adequate competitive procurement or technical data package.
- Items released to Army by other customers too late to permit obligation in FY 1980.

* Includes estimated FY 79 and prior years carryover and other customer reimbursable program.

PROCUREMENT OF WEAPONS AND TRACKED COMBAT VEHICLES, ARMY (Cont'd)

2. Engineering Changes:

- a. Engineering costs in support of production (obligated only as expenses are incurred).
- b. Validated engineering change orders to be incorporated into the current manufacturing process.
- c. Engineering changes as a result of acceptance testing.
- d. Amounts reserved to support engineering change proposals and value engineering proposals.

3. Other:

- a. Changes to the previously planned method of procurement (i.e., competitive in lieu of sole-source).
- b. Extension to bid opening dates.
- c. Additional time required to complete audits of cost data and to obtain contractor cost data.
- d. Unfavorable preaward surveys and extended negotiations.
- e. Held pending validation of production capability of low bidder.
- f. Attaining a satisfactory production rate prior to awarding additional work.

PROCUREMENT OF WEAPONS AND TRACKED COMBAT VEHICLES, ARMY

Section 8

Modification

NOT USED

3-39 - 1/22/79

PROCUREMENT OF WEAPONS AND TRACKED COMBAT VEHICLES, ARMY

Section 9

Flight Simulators

NOT USED

3-40 - 1/22/79

PROCUREMENT OF WEAPONS AND TRACKED COMBAT VEHICLES, ARMY

Section 10

War Reserve - Secondary Items

Furnished Separately

3-41 - 1/22/79

DISTRIBUTION

HAC
SAC
HASC
SASC
HBC
SBC
CBO
ASD(C)
ASD(DFOISR)
ASA(IL&FM)
ASA(RDA)
ASA(M&RA)
DACS-DC
DACS-BMZ-A
DACS-DP
DACA-BUB
DACA-BUS
DACA-BUR
DACA-BU
DAAG-OPZ-D
DAAC-RM-BB
OCLL

DAMI
DAMO
DAPE
DAMA-PP
DAMA-PPP
DAMA-PPC
DAMA-PPR
DAMA-PPT
DAMA-WS
DAMA-WSA
DAMA-WSM
DAMA-WSW
DAMA-CS
DAMA-CSC-B
DAMA-CSM
DAMA-CSS
DALO
DAEN-ZCE
DAMH
NGB
DAAR
DASG
NAVY
AIR FORCE

DEPARTMENT OF THE ARMY

JUSTIFICATION OF ESTIMATES FOR FISCAL YEAR 1980

SUBMITTED TO CONGRESS

JANUARY 1979



PART 4 OF 5 PARTS
(AMMUNITION)

PROCUREMENT

AIRCRAFT

WEAPONS & TRACKED COMBAT VEHICLES

AMMUNITION

PROGRAMS

MISSILES

OTHER

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DEPARTMENT OF THE ARMY
Office of the Deputy Chief of Staff
For
RESEARCH, DEVELOPMENT AND ACQUISITION

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22 January 1979

DEPARTMENT OF THE ARMY
PROCUREMENT APPROPRIATIONS

Justification of Estimates for Fiscal Year 1980, 81 (Auth only)

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Department of the Army
Procurement of Ammunition, Army

Justification of Estimates for Fiscal Year 1980

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PROCUREMENT OF AMMUNITION, ARMY

Section 1

Budget Appendix Extract

Language

Program and Financing Schedule

Object Classification Schedule

4-1 - 1/22/79

APPROPRIATION LANGUAGE

For construction, procurement, production, and modification of ammunition, and accessories therefor; specialized equipment and training devices; expansion of public and private plants, including ammunition facilities authorized in military construction authorization Acts or authorized by section 2673, title 10, United States Code, and the land necessary therefor, without regard to section 4774, title 10, United States Code, for the foregoing purposes, and such lands and interests therein, may be acquired, and construction prosecuted thereon prior to approval of title as required by section 355, Revised Statutes, as amended; and procurement and installation of equipment, appliances, and machine tools in public and private plants; reserve plant and Government and contractor-owned equipment layaway; and other expenses necessary for the foregoing purposes; [~~\$1,218,100,000~~, and in addition, \$30,000,000 shall be derived by transfer from "Procurement of Ammunition, Army, 1976/1978"] \$1,343,400,000 to remain available for obligation until September 30, [~~1981~~] 1982. (1) (2) (3)

(10 U.S.C. 2353, 3012, 4531, 4532; 31 U.S.C. 649c; Department of Defense Appropriation Act, 1979; additional authorizing legislation to be proposed.)

EXPLANATION OF LANGUAGE CHANGES

- (1) To allow restoration of damaged or destroyed ammunition production facilities, authorized by 10 USC 2673.
- (2) To change the amount of the appropriation requested for FY 1980.
- (3) To change the obligation expiration date for the FY 1980 program.

22 JAN 79

Procurement of Ammunition, Army

Army

Program and Financing (in thousands of dollars)

Identification code	21-2034-0-1-051	Budget plan (amounts for procurement actions programmed)				Obligations	
		1978 actual	1979 est.	1980 est.	1978 actual	1979 est.	1980 est.
Program by activities:							
Direct:							
1.	Ammunition	876,200	1,010,900	1,000,200	815,489	956,207	999,778
2.	Ammunition production base support	381,887	237,200	343,200	397,337	197,137	328,704
Total direct		1,258,087	1,248,100	1,343,400	1,212,826	1,153,344	1,328,482
Reimbursable program (total)		664,532	478,000	493,600	511,190	392,656	521,518
Total		1,922,619	1,726,100	1,837,000	1,724,016	1,546,000	1,850,000
10.00	Total						
Financing:							
Offsetting collections from:							
11.00	Federal funds	-379,634	-272,500	-332,700	-377,440	-252,800	-332,700
13.00	Trust funds	-284,375	-205,500	-160,900	-156,297	-183,700	-160,900
14.00	Non-federal sources	-523			-456		
21.40	Unobligated balance available, start of year.						
	For completion of prior year budget plans						
	Available to finance new budget plans	-93,700			-551,918	-451,547	-590,147
	Reprogramming from or to prior year budget plans	-208,638			-93,700		
22.40	Unobligated balance transferred from other accounts	-98,787					
23.40	Unobligated balance transferred to other accounts	219,687			219,687		
24.40	Unobligated balance available, end of year:						
	For completion of prior year budget plans				451,547	590,147	571,147
25.00	Unobligated balance lapsing	82,651			82,651		
Budget authority		1,159,300	1,248,100	1,343,400	1,159,300	1,248,100	1,343,400
Budget authority:							
40.00	Appropriation	1,179,300	1,216,100	1,313,400	1,179,300	1,216,100	1,313,400
41.00	Transferred to other accounts	-20,000			-20,000		
43.00	Appropriation (adjusted)						
50.01	Reappropriation	1,159,300	1,218,100	1,343,400	1,159,300	1,213,100	1,343,400
Relation of obligations to outlays:							
71.00	Obligations incurred, net				1,149,821	1,109,500	1,356,400
72.40	Obligated balance, start of year				876,567	1,290,556	1,841,056
74.40	Obligated balance, end of year				-1,290,556	-1,541,056	-1,951,456
77.00	Adjustments in expired accounts				-4,143		
90.00	Outlays				731,689	859,000	946,000

Army

Procurement of Ammunition, Army

22 JAN 79

Object Classification (in thousands of dollars)

Identification code	21-2034-0-1-051	1978 actual	1979 est.	1980 est.
Direct obligations:				
22.0 Transportation of things		21,700		
25.0 Other services:				
Other		197,700	149,600	269,200
26.0 Supplies and materials		991,638	954,679	1,049,282
31.0 Equipment		1,738	9,065	10,000
Total direct obligations		1,212,826	1,153,344	1,328,482
Reimbursable obligations:				
22.0 Transportation of things		12,300		
25.0 Other services:				
Other		73,100	60,300	71,300
26.0 Supplies and materials		425,088	328,356	444,400
31.0 Equipment		702	4,000	5,818
Total reimbursable obligations		511,190	392,656	521,518
Total obligations		1,724,016	1,546,000	1,850,000

Army		Procurement of Ammunition, Army		22 JAN 79		
Identification code		21-2034-0-1-051		1976 Fiscal year program		
Program and Financing (in thousands of dollars)		Budget plan (amounts for procurement actions programmed)		Obligations		
		1978 actual	1979 est.	1980 est.	1979 actual	1980 est.
Program by activities:						
Direct:						
1. Ammunition						
2. Ammunition production base support						
Total direct						
Reimbursable program (total)						
10.00	Total	.....	.....	.....	5,929	.....
		.....	.....	.....	2,055	.....
		.....	.....	.....	7,984	.....
		.....	.....	.....	7,213	.....
		.....	.....	.....	15,197	.....
Financing:						
Offsetting collections from:						
11.00	Federal funds	.....	.....	.....	1,859	.....
13.00	Trust funds	.....	.....	.....	51,360	.....
21.40	Unobligated balance available, start of year:	.....	.....	.....	-167,704	.....
	For completion of prior year budget plans	.....	.....	.....	-73,400	.....
	Available to finance new budget plans	.....	.....	.....	.....	.....
23.40	Reprogramming from or to prior year budget plans	.....	.....	.....	.....	.....
	Unobligated balance transferred to other accounts	.....	.....	.....	102,246	.....
25.00	Unobligated balance lapsing	.....	.....	.....	70,443	.....
	Budget authority	.....	.....	.....	.....	.....

Army		Procurement of Ammunition, Army		22 JAN 79	
Identification code		21-2034-0-1-051		1971 Fiscal year program	
		Program and Financing (in thousands of dollars)		Obligations	
		Budget plan (amounts for procurement actions programmed)			
		1978 actual	1979 est.	1978 actual	1979 est.
		1980 est.	1980 est.	1980 est.	1980 est.
Program by activities:					
Direct:					
1. Ammunition					
2. Ammunition production base support					
Total direct					
Reimbursable program (total)					
10.00	Total	-3,138	7,810		
Financing:					
Offsetting collections from:					
13.00	Trust funds			18,700	
21.40	Unobligated balance available, start of year:				
	For completion of prior year budget plans			-134,721	
23.40	Reprogramming from or to prior year budget plans	-109,350			
	Unobligated balance transferred to other accounts	97,141		97,141	
25.00	Unobligated balance lapsing	12,209		12,208	
Budget authority					

Army		Procurement of Ammunition, Army		22 JAN 79			
Identification code		21-2034-0-1-051		1977 Fiscal year program			
Program by activities:		Program and Financing (in thousands of dollars)		Obligations			
Direct:		Budget plan (amounts for procurement actions programmed)					
		1978 actual	1979 est.	1980 est.	1978 actual	1979 est.	1980 est.
1. Ammunition					70,745	51,161	
2. Ammunition production base support					31,069	13,837	
Total direct					101,834	64,998	
Reimbursable program (total)					22,860	21,883	
Total					124,694	86,881	
10.00							
Financing:							
Offsetting collections from:							
Federal funds					335	7,300	
11.00					18,018	12,200	
13.00					65		
14.00							
21.40							
Non-federal sources							
Unobligated balance available, start of year:							
For completion of prior year budget plans							
Available to finance new budget plans							
Unobligated balance transferred to other accounts							
23.40					-249,493	-106,381	
					-20,300		
24.40					20,300		
Unobligated balance available, end of year:							
For completion of prior year budget plans					106,381		
Budget authority							

Army		Procurement of Ammunition, Army		22 JAN 79	
		Program and Financing (in thousands of dollars)		1978 Fiscal year program	
Identification code		21-2034-0-1-051		Obligations	
		Budget plan (amounts for procurement actions programmed)			
		1978 actual	1979 est.	1980 est.	1980 est.
Program by activities:					
Direct:					
1. Ammunition					
2. Ammunition production base support					
Total direct		876,200		741,953	96,536
Reimbursable program (total)		381,887		356,383	10,504
Total		1,258,087		1,098,336	107,040
		564,532		479,117	127,242
Total		1,922,619		1,577,453	234,282
Financing:					
Offsetting collections from:					
Federal funds					
Trust funds					
Non-federal sources					
Unobligated balance available, start of year:					
For completion of prior year budget plans					
Unobligated balance transferred from other accounts					
Unobligated balance available, end of year:					
For completion of prior year budget plans					
Budget authority		-379,634		-379,634	12,400
		-284,375		-284,375	9,600
		-523		-523	
					-345,166
		-98,787		-98,787	
				345,166	234,282
Budget authority		1,159,300		1,159,300	
Budget authority:					
Appropriation					
Transferred to other accounts					
Appropriation (adjusted)					
		1,179,300		1,179,300	
		-20,000		-20,000	
		1,159,300		1,159,300	

Army		Procurement of Ammunition, Army		22 JAN 79		
Identification code		21-2034-0-1-051		1979 Fiscal year program		
Program and Financing (in thousands of dollars)		Budget plan (amounts for procurement actions programed)		Obligations		
		1978 actual	1979 est.	1980 est.	1979 actual	1980 est.
Program by activities:						
Direct:						
1. Ammunition			1,010,900		867,335	72,522
2. Ammunition production base support			237,200		168,300	33,500
Total direct			1,248,100		1,035,635	106,022
Reimbursable program (total)			478,000		334,600	48,756
Total			1,726,100		1,370,235	154,778
Financing:						
Offsetting collections from:						
11.00 Federal funds			-272,500		-272,500	
13.00 Trust funds			-205,500		-205,500	
21.40 Unobligated balance available, start of year:						
For completion of prior year budget plans						-355,865
24.40 Unobligated balance available, end of year:						201,087
For completion of prior year budget plans						
Budget authority			1,248,100		353,865	201,087
Budget authority:					1,248,100	
40.00 Appropriation			1,218,100		1,218,100	
50.01 Resappropriation			30,000		30,000	

Procurement of Ammunition, Army

22 JAN 79

Program and Financing (in thousands of dollars)

Identification code 21-2034-0-1-051

1980 Fiscal year program
Obligations

Budget plan (amounts for procurement actions programmed)

	1979 actual	1979 est.	1980 est.	1979 actual	1979 est.	1980 est.
1. Total	100.0	100.0	100.0	100.0	100.0	100.0
2. Government	10.0	10.0	10.0	10.0	10.0	10.0
3. Non-government	90.0	90.0	90.0	90.0	90.0	90.0
4. Total	100.0	100.0	100.0	100.0	100.0	100.0
5. Government	10.0	10.0	10.0	10.0	10.0	10.0
6. Non-government	90.0	90.0	90.0	90.0	90.0	90.0
7. Total	100.0	100.0	100.0	100.0	100.0	100.0
8. Government	10.0	10.0	10.0	10.0	10.0	10.0
9. Non-government	90.0	90.0	90.0	90.0	90.0	90.0
10. Total	100.0	100.0	100.0	100.0	100.0	100.0
11. Government	10.0	10.0	10.0	10.0	10.0	10.0
12. Non-government	90.0	90.0	90.0	90.0	90.0	90.0
13. Total	100.0	100.0	100.0	100.0	100.0	100.0
14. Government	10.0	10.0	10.0	10.0	10.0	10.0
15. Non-government	90.0	90.0	90.0	90.0	90.0	90.0
16. Total	100.0	100.0	100.0	100.0	100.0	100.0
17. Government	10.0	10.0	10.0	10.0	10.0	10.0
18. Non-government	90.0	90.0	90.0	90.0	90.0	90.0
19. Total	100.0	100.0	100.0	100.0	100.0	100.0
20. Government	10.0	10.0	10.0	10.0	10.0	10.0
21. Non-government	90.0	90.0	90.0	90.0	90.0	90.0
22. Total	100.0	100.0	100.0	100.0	100.0	100.0
23. Government	10.0	10.0	10.0	10.0	10.0	10.0
24. Non-government	90.0	90.0	90.0	90.0	90.0	90.0
25. Total	100.0	100.0	100.0	100.0	100.0	100.0
26. Government	10.0	10.0	10.0	10.0	10.0	10.0
27. Non-government	90.0	90.0	90.0	90.0	90.0	90.0
28. Total	100.0	100.0	100.0	100.0	100.0	100.0
29. Government	10.0	10.0	10.0	10.0	10.0	10.0
30. Non-government	90.0	90.0	90.0	90.0	90.0	90.0
31. Total	100.0	100.0	100.0	100.0	100.0	100.0
32. Government	10.0	10.0	10.0	10.0	10.0	10.0
33. Non-government	90.0	90.0	90.0	90.0	90.0	90.0
34. Total	100.0	100.0	100.0	100.0	100.0	100.0
35. Government	10.0	10.0	10.0	10.0	10.0	10.0
36. Non-government	90.0	90.0	90.0	90.0	90.0	90.0
37. Total	100.0	100.0	100.0	100.0	100.0	100.0
38. Government	10.0	10.0	10.0	10.0	10.0	10.0
39. Non-government	90.0	90.0	90.0	90.0	90.0	90.0
40. Total	100.0	100.0	100.0	100.0	100.0	100.0
41. Government	10.0	10.0	10.0	10.0	10.0	10.0
42. Non-government	90.0	90.0	90.0	90.0	90.0	90.0
43. Total	100.0	100.0	100.0	100.0	100.0	100.0
44. Government	10.0	10.0	10.0	10.0	10.0	10.0
45. Non-government	90.0	90.0	90.0	90.0	90.0	90.0
46. Total	100.0	100.0	100.0	100.0	100.0	100.0
47. Government	10.0	10.0	10.0	10.0	10.0	10.0
48. Non-government	90.0	90.0	90.0	90.0	90.0	90.0
49. Total	100.0	100.0	100.0	100.0	100.0	100.0
50. Government	10.0	10.0	10.0	10.0	10.0	10.0
51. Non-government	90.0	90.0	90.0			

Program by activities:

Direct:

1. Ammunition

2. Ammunition production base support

Total direct

Reimbursable program (total)

10.00

Total

Financing:

Offsetting collections from:

	Federal funds
11.00	

	Trust funds
13.00	
24.40	

24.40 Unobligated ba

Unobligated balance available, end of year:
For completion of prior year budget plans

Budget authority

1,005,200	630,720
343,200	284,700
1,343,400	1,115,420
493,600	345,520
1,837,000	1,460,940

.....	-332,705	-332,700
.....	-160,900	-160,900

376,060	-----
1,343,400	-----
1,343,400	-----

PROCUREMENT OF AMMUNITION, ARMY

Section 2

Introductory Statement

4-11 - 1/22/79

DEPARTMENT OF THE ARMY
ANNUAL BUDGET ESTIMATES

Appropriation:

Procurement of Ammunition, Army	FY 1980 Budget
Section 2 - INTRODUCTORY STATEMENT	

This appropriation finances the acquisition of ammunition, modification of inservice stock, and related production base support including the maintenance, expansion, and modernization of industrial facilities and equipment.

The 1980 program provides for worldwide training consumption and losses from inventory through the 1980 funded delivery period; procurement of modern hardware; and buildup of war reserve stocks to meet authorized acquisition objectives. This year's program includes funds for over 50 different types of ammunition and provides the twelfth increment of a multiyear effort to rehabilitate and improve the Army's industrial base.

PROCUREMENT OF AMMUNITION, ARMY

Section 3

Summary of Requirements

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SUMMARY OF REQUIREMENTS (In Thousands of Dollars)			
Appropriation:	FY 1978 Actual	FY 1979 Estimate	FY 1980 Estimate
PROCUREMENT OF AMMUNITION, ARMY			
Ammunition	876,200	1,010,900	1,000,200
Ammunition Production Base Support	381,887	237,200	343,200
Total Direct Program	1,258,087	1,248,100	1,343,400
Reimbursable Program	664,532	478,000	493,600
TOTAL PROGRAM REQUIREMENTS	1,922,619	1,726,100	1,837,000
Less: Portion of program to be obligated in subsequent fiscal years	345,166	355,865	376,060
Plus: Obligations incurred against prior year program funds	146,563	175,765	389,060
TOTAL OBLIGATIONS	1,724,016	1,546,000	1,850,000

PROCUREMENT OF AMMUNITION, ARMY

Section 4

Budget Activity Justification

Activity 1 - Ammunition

Activity 2 - Ammunition Production Base Support

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FORMAT J

Department of the Army Annual Budget Estimates JUSTIFICATION	Appropriation		FY 1980
	(In Thousands of Dollars)		Budget
	Actual	Estimate	
	Fiscal Year 1978	Fiscal Year 1979	Fiscal Year 1980
Budget Program or Budget Project Account			
ACTIVITY 1 - AMMUNITION			
Direct Obligations or Direct Budget Plan	\$ 876,200	\$ 1,010,900	\$ 1,000,200

Section 1 - PURPOSE AND SCOPE

Ammunition. This request provides for annual peacetime training needs and the acquisition of U.S. war reserve stocks for use during war time. Family of munitions included in the request are artillery, mortar and small arms ammunition, fuzes, mines, and demolitions, grenades, pyrotechnic signals, and other ammunition items. The major portion of the funds being requested are identified to newly developed tank rounds, artillery dual purpose improved conventional munitions, and artillery delivered mine systems.

Section 2 - JUSTIFICATION OF FUNDS REQUESTED

The fiscal year 1980 program provides for worldwide training consumption and losses to inventory through the FY80 funded delivery period; increases US Army readiness in support of the FY84 authorized acquisition objective and maintains an active ammunition production base in FY80 for modernization and training type munitions. The FY80 program includes over 50 different types of ammunition with the following category breakout: tank ammunition, \$162.9 million; fuzes, \$95.2 million; artillery ammunition, \$279.4 million; propelling charges, \$85.3 million; small arms ammunition, \$53.4 million; mortar ammunition, \$131.1 million; atomic materiel, \$25.8 million; rockets, \$62.0 million; and other ammunition, spares and components for tests, renovation and proveout, \$105.1 million. Of the \$1000.2 million total, \$622.2 million is allocated to tank gun and artillery munitions with related fuzes and propelling charges.

FORMAT J

Department of the Army Annual Budget Estimates JUSTIFICATION	Appropriation Procurement of Ammunition, Army		FY 1980 Budget
	(In Thousands of Dollars)		
	Actual	Estimate	
	Fiscal Year 1978	Fiscal Year 1979	Fiscal Year 1980
Budget Program or Budget Project Account			
Activity 2 - Production Base Support			
Direct Obligations or Direct Budget Plan	\$ 381,889	\$ 237,200	\$ 343,200

Section 1 - PURPOSE AND SCOPE

Provides for the support of plants in active production and the modernization and expansion of the Army's production capability for ammunition; layaway of industrial plants and equipment; and the manufacturing technology to facilitate and improve the production of ammunition.

Section 2 - JUSTIFICATION OF FUNDS REQUESTED

The major effort for the ammunition production base in FY 1980 is the modernization and expansion program. The modernization and expansion program seeks to modernize existing World War II facilities which are deteriorated, obsolete, and inefficient, and to expand the base, where required, to provide the production capability to produce the new modernized ammunition items. The FY 1980 modernization and expansion program of \$271.1 million (including construction) is the twelfth year increment of a long range, multi-billion capital investment program. The principal thrust of the program in FY 1980 is the establishment of the production base capability to produce the new and more effective modernized ammunition items. New production capability is being established or expanded for: a new red phosphorous smoke (L8A1) grenade (\$2.2 million); combined rocket motor and body metal parts facility for the 155mm/8in rocket assisted projectile (\$25.4 million). These projects are needed to permit the introduction of these modernized ammunition items into the Army's inventory with the resultant increase in the readiness and effectiveness of our combat forces. A detailed breakout of individual projects is provided in Section 6.

The principal thrust of the FY80 program is continuation of and balance with prior year initiatives. A total of \$102.3 million is requested for the Mississippi Army Ammunition Plant, Bay St Louis, MS. This phase will provide for construction and for purchase of long lead time equipment for the cargo metal parts and load, assemble and pack facilities. The Mississippi AAP when complete will be capable of producing 120,000 rounds per month of 155mm, M483 Improved Conventional Munition (ICM). The Continuous Automated Multi Base Line at Radford AAP for manufacture of propellants at \$98.8 million provides an additional 2.4 million pounds per month capability. This capability is required to meet planned out year procurements and provides balance

Department of the Army Annual Budget Estimates		FY 1980
JUSTIFICATION		Budget
Appropriation	Budget Program or Budget Project Account	
Procurement of Ammunition, Army	Activity 2 - Production Base Support	

against previous base investment for metal parts and LAP for those munitions requiring multi-base propellants. Other major expansion projects are a \$4.2 million project to expand the SUFAE rocket motor production at Longhorn AAP; a \$2.0 million project for 60 and 81mm propelling charges at Milan AAP and a \$21.4 million project to manufacture center core propelling charges at Indiana AAP. These projects are required to meet planned out-year procurements for the items. Finally a \$0.9 million project for a containerization facility at our Lone Star, TX plant is included for containerized shipment of ammunition and a \$13.9 million omnibus design effort.

Also included in the FY 1980 request for funds are the necessary production support and equipment replacement for plants in active production (\$30.0 million); the layaway of industrial plant equipment and facilities needed to meet mobilization requirements (\$14.7 million); and a manufacturing technology program to incorporate the latest state-of-the-art in technology into the production of ammunition (\$27.4 million). It is expected that sixteen ammunition plants will require FY 80 production support and equipment replacement funds. These facilities include the three former Navy facilities transferred to the Army under the Single Manager for Conventional Ammunition role on 1 October 1977, plus three production-related facilities. The \$14.7 million requested for layaway is for the protection and preservation of equipment and facilities no longer required for active production but which must be retained for future peacetime or mobilization production. This increase required to offset deferred layaway due to limited funding in FY79 and prior years and to accommodate requirements due to assumption of responsibility for former Navy facilities. The \$27.4 million for manufacturing methods and technology (MM&T) is associated with the modernization and expansion program. This program improves on-going production processes to achieve cost reductions and enhanced health, safety, and energy conservation characteristics. Additionally, this program develops production processes incorporating the latest state-of-the-art technology from private industry to mass produce the new, more sophisticated munitions. A breakout of associated costs for the total production base program is reflected on the next page.

The separate budget line item for the construction effort in support of the ammunition production base has been deleted from the P1 procurement exhibit for the President's FY80 Budget. This action was to eliminate the confusion that was caused by splitting projects with both equipment and construction between two budget lines. A detailed breakout of the projects with construction is contained on page 4-20. The construction portions of the individual projects are shown in parenthesis in Section 6, pages 4-31 to 4-37. Included in this year's ammunition procurement request is \$82.99 million of construction which will require authorization in this year's Military Construction Authorization Bill. This authorization total does not contain any authorization for the new Mississippi Army Ammunition Plant since construction of this plant was authorized by Congress in FY78.

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Department of the Army Annual Budget Estimates		FY 1980		
JUSTIFICATION		Budget		
Appropriation		Budget Program or Budget Project Account		
Procurement of Ammunition, Army		Activity 2 - Production Base Support		
		FY 78 (Millions)	FY 79 (Millions)	FY 80 (Millions)
<u>Provision of Industrial Facilities - Construction-Related</u>				
<u>Provision of Industrial Facilities (PIF)</u>				
Production Support and Equipment Replacement (PS&ER)				
Initial Production Facilities (IPF)				
Modernization (MOD)				
Expansion (EXP)				
<u>Layaway of Industrial Facilities</u>				
<u>Quick Return on Investment Program</u>				
<u>Manufacturing Methods & Technology</u>				
<u>Military Adaptation of Commercial Items</u>				
TOTAL PBS AMMUNITION				
* The total of \$40.7 million includes \$22.0 of construction for the Mississippi Army Ammunition Plant and \$18.7 million appropriated which required military construction authorization.				
** Includes \$36.2 million transferred from FY 76 to FY 78 for the Mississippi Army Ammunition Plant utilizing DOD Transfer Authority in conjunction with prior Congressional approval contained in the FY 78 Joint Military Construction Authorization Conference.				

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* The total of \$40.7 million includes \$22.0 of construction for the Mississippi Army Ammunition Plant and \$18.7 million appropriated which required military construction authorization.

** Includes \$36.2 million transferred from FY 76 to FY 78 for the Mississippi Army Ammunition Plant utilizing DOD Transfer Authority in conjunction with prior Congressional approval contained in the FY 78 Joint Military Construction Authorization Conference.

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Appropriation	Department of the Army Annual Budget Estimates JUSTIFICATION	FY 1980	
		Budget Program or Budget Project Account	Budget
Procurement of Ammunition, Army		Activity 2 - Production Base Support	

Authorization of construction required to support ammunition production base projects in the FY 1980 program is valued at \$82.99 million. Starting in FY 77 this military construction is authorized in the Military Construction Authorization Bill and appropriated in the Ammunition Procurement Appropriation. The Congress authorized \$504.3 million of military construction in FY 78 and \$23.6 million in FY 79. Military Construction Project Data (DD Form 1391), which provide detailed project information, is published under separate cover. A listing of FY 1980 construction projects is as follows:

Army Ammunition Plants (AAP)	Project No.	Project Title	PIF Const Cost Estimate (Millions)		PIF Equipment Cost (Millions)	Total Project Cost (Millions)
			PS&ER	MOD/EXP		
Indiana AAP, Indiana	5802694	155mm/8inch Center Core LAP Facility				\$21.40
	5805330	Valve Pits Inert Area	\$9.90		11.50	.34
	5805330	Fuel Oil Storage Fac				.25
Radford AAP, Virginia	5802875	Continuous Automated Multi Base Line (CAMBL)	66.00		32.80	98.80
	5805326	Replacement of Barricades		1.35		1.35
Lone Star AAP, Texas	5803106	Centralized Ammunition Container Facility				.94
	5805316	Patrol & Access Road at Railroad Classification Yard	.92		.02	
	5805316	Install Lightning Protection		.23		.23
	5805316	Replace Fire & Security Facility		.09		.09
Louisiana AAP, Louisiana	5805314	Drainage and Parking Area Improvement		.65		.65
	5805314	Forklift Battery Charging Building		.12		.12
				.55		.55

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Department of the Army Annual Budget Estimates		FY 1980
JUSTIFICATION		Budget
Appropriation		Budget Program or Budget Project Account
Procurement of Ammunition, Army		Activity 2 - Production Base Support

Army Ammunition Plants (AAP)	Project No.	Project Title	PS&ER	PIF Const Cost Estimate (Millions) MOD/EXP	PIF Equipment Cost (Millions)	Total Project Cost (Millions)
Milan AAP, Tennessee	5805317	Construct Two Railroad Bridges	.28			.28
	5805317	Cathodic Protection for Steel Water Tanks	.17			.17
Longhorn AAP, Texas	5805327	Fire Protection Sprinkler Sys	.17			.17
Holston AAP, TN	5805328	Fire Protection Sprinkler Sys	.25			.25
	5805328	Overfire Air Systems for Boiler Plant	.24			.24
	5805328	Magazine Dock Alt	.34			.34
Lake City AAP, Missouri	5805332	Security Fencing for Ammo & Explosives	.14			.14
Scranton AAP, PA	5805342	Plant Lighting Improvements	.26			.26
	5805342	Improve Elec Distribution Sys	.46			.46
Riverbank AAP, CA	5805343	Construct Fire Station	.28			.28
		Construction Sub-total	6.17	76.82		
		GRAND TOTAL (CONSTRUCTION)			82.99	

FORMAT A

Department of the Army Annual Budget Estimates		FY 1980
JUSTIFICATION		Budget
Appropriation		Budget Program or Budget Project Account
Procurement of Ammunition, Army		Activity 2 - Production Base Support

End Item Capability: In order to produce an ammunition end item, the individual components have to be produced and have to be balanced with the desired end item capability. These components include metal parts, fuzes, propellants, explosives, detonators, etc. These components are loaded with explosives, assembled, and packed (LAP) into the final end item. The principal end item capabilities, which will be established with the FY 80 projects, are as follows:

Project Number	Item	Individual Projects	(\$ in Millions)	Production Capability
5800037	L8A1 Grenade (Red Phosphorous Grenade)	Initial Production Capability for L8A1 Grenade	\$ 2.2	21,000 grenades per month
5803004	155mm M549/8in M650 Rocket Assisted Projectile	Initial Production Facility for Combined Metal Parts Manufacture of the 155mm M549/8in M650 Rkt Assisted Projectile Warhead Motor Body	25.4	14,000 155mm, 4,000 8in projectiles per month
5802875	Continuous Automated Multi-Base Propellant Line	Expansion Project for Triple Base Cannon Propellant Manufacturing Capability	98.8	From 1.5 million pounds per month to 3.9 million rounds per month
5802003	SLUFAE (Surface Launched Unit Fuel Air Explosive)	Expansion project for rocket motor loading	4.2	From 1,600 to 4,300 rocket motor per mo
5802007	60mm/81mm Propellant Charges	Expansion project for propellant charge assembly	1.9	From 250,000 to 562,000 charges per month
5802694	155mm/8in Center Core	Exp proj to load, assemble & pack center core for 155mm projectile chg	21.4	From 105,000 to 315,000 155mm or 42,000 to 84,000 8in chg per mo.

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PROCUREMENT OF AMMUNITION, ARMY

Section 5

Comparison of Program Requirements and Financing

Comparison of FY1979 program requirements as reflected in FY1979 budget with FY1979 program requirements as shown in FY1980 budget.

Comparison of FY1979 financing as reflected in FY1979 budget with FY1979 financing as shown in FY1980 budget.

Comparison of FY1978 program requirements as reflected in FY1979 budget with FY1978 program requirements as shown in FY1980 budget.

Comparison of FY1978 financing as reflected in FY1979 budget with FY1978 financing as shown in FY1980 budget.

COMPARISON OF FY 1979 PROGRAM REQUIREMENTS
AS REFLECTED IN FY 1979 BUDGET WITH
FY 1979 PROGRAM REQUIREMENTS AS SHOWN IN FY 1980 BUDGET

SUMMARY OF REQUIREMENTS (In Thousands of Dollars)

Appropriation	Total Program Requirements		Program Requirements		Increase (+) or Decrease (-)
	Procurement of Ammunition, Army	Per FY 79 Budget	Per FY 1980 Budget		
Activity 1 - Ammunition		1,154,800	1,010,900		-143,900
Activity 2 - Ammunition Production		265,300	237,200		- 28,100
Base Support					
Total		1,420,100	1,248,100		-172,000

Explanation by Activity

Activity 1 - Ammunition. This program was reduced \$143.9 million by the Congress. The committees directed that \$46.0 million of this reduction be included in the operation and maintenance, Army 1979 appropriation to fund First Destination Transportation of ammunition items; and, that \$1.7 million of the reduction be included in the Research, Development, Test and Evaluation, Army 1979 appropriation to develop improvements to Composition B Explosive.

Activity 2 - Ammunition Production Base Support. The net change is the result of Congressional action which reduced various production base projects by a total of \$38.1 million and increased the Mississippi Army Ammunition Plant 155mm Improved Conventional Munition production facility project by \$10.0 million.

COMPARISON OF FY 1979 FINANCING AS REFLECTED
IN THE FY 1979 BUDGET WITH FY 1979 FINANCING
AS SHOWN IN FY 1980 BUDGET

Appropriation	(In Thousands of Dollars)		Increase (+) or Decrease (-)
	Financing Per FY 1979 Budget	Financing Per FY 1980 Budget	
Procurement of Ammunition, Army			
Program Requirements, (Total)	2,035,300	1,726,100	-309,200
Program Requirements (Service Account)	(1,420,100)	(1,248,100)	(-172,000)
Program Requirements (Reimbursable)	(615,200)	(478,000)	(-137,200)
Less:			
Anticipated reimbursements	615,200	478,000	-137,200
Reprogramming from prior year budget plans	-0-	-0-	-0-
Unobligated balance available from prior year to finance new budget plans	-0-	-0-	-0-
Unobligated balance transferred from other accounts	-0-	-0-	-0-
Add:			
Unobligated balance transferred to other accounts	-0-	-0-	-0-
Unobligated balance available to finance subsequent year budget plans	-0-	-0-	-0-
BUDGET AUTHORITY	1,420,100	1,248,100	-172,000

BUDGET AUTHORITY			
Appropriation	1,420,100	1,218,100	-202,000
Transfer to Other Accounts	-0-	-0-	-0-
Appropriation (adjusted)	1,420,100	1,218,100	-202,000
Reappropriation		30,000	+ 30,000

EXPLANATION OF CHANGES IN FINANCING

The total program for fiscal year 1979 has decreased by \$309,200 thousand since the budget request was presented to the Congress. This decrease is attributed to the following:

EXPLANATION OF CHANGES IN FINANCING (Cont'd)

Anticipated Reimbursements: Estimated sales of ammunition to customers, including foreign countries, decreased by \$137,200 thousand to reflect current program execution plans.

Budget Authority: The decrease in budget authority of \$172,000 thousand is due to Congressional program reductions of a like amount.

Appropriation: Decrease of \$202,000 thousand is due to program reductions of \$172,000 thousand and a general reduction of \$30,000 thousand with a like amount of program to be funded by transfer of unobligated balances from Procurement of Ammunition, Army, fiscal years 1976 and 1977.

Reappropriation: Represents \$30,000 thousand in lapsed funds from Procurement of Ammunition, Army, fiscal years 1976 and 1977.

COMPARISON OF FY 1978 PROGRAM REQUIREMENTS
AS REFLECTED IN FY 1979 BUDGET WITH
FY 1978 PROGRAM REQUIREMENTS AS SHOWN IN FY 1980 BUDGET

SUMMARY OF REQUIREMENTS (In Thousands of Dollars)			
Appropriation:	Total Program Requirements Per FY 79 Budget	Program Requirements Per FY 1980 Budget	Increase (+) or Decrease (-)
Procurement of Ammunition, Army			
Activity 1 - Ammunition	888,200	876,200	-12,000
Activity 2 - Ammunition Production Base Support	376,800	381,887	+ 5,087
Total	1,265,000	1,258,087	- 6,913

Explanation by Activity

Activity 1 - Ammunition. \$120 million decrease represents a transfer to Other Procurement, Army 1978.

Activity 2 - Ammunition Production Base Support. \$5,087 thousand was transferred from the fiscal year 1976 Army Ammunition account for the 155mm Improved Conventional Munition manufacturing facility in Mississippi.

COMPARISON OF FY 1978 FINANCING AS REFLECTED
IN THE FY 1979 BUDGET WITH FY 1978 FINANCING
AS SHOWN IN FY 1980 BUDGET

Appropriation:	(In Thousands of Dollars)			Increase (+) or Decrease (-)
	Financing Per FY 1979 Budget	Financing Per FY 1980 Budget		
Procurement of Ammunition, Army				
Program Requirements, (Total)	1,914,000	1,922,619		+ 8,619
Program Requirements (Service Account)	(1,265,000)	(1,258,087)		(- 6,913)
Program Requirements (Reimbursable)	(649,000)	(664,532)		(+15,532)
Less:				
Anticipated reimbursements	649,000	664,532		+15,532
Reprogramming from prior year budget plans	-0-	-0-		-0-
Unobligated balance available from prior year to finance new budget plans	-0-	-0-		-0-
Unobligated balance transferred from other accounts	93,700	98,787		+ 5,087
Add: Unobligated balance transferred to other accounts	-0-	-0-		-0-
Unobligated balance available to finance subsequent year budget plans	-0-	-0-		-0-
BUDGET AUTHORITY	1,171,300	1,159,300		-12,000

BUDGET AUTHORITY

Appropriation
Transfer to Other Accounts
Appropriation (adjusted)

EXPLANATION OF CHANGES IN FINANCING

The fiscal year 1978 program has been increased by \$8,619 thousand since the FY1979 budget presentation to the Congress. This increase is due to the following:

EXPLANATION OF CHANGES IN FINANCING (Cont'd)

Anticipated Reimbursements: \$15,532 thousand increase reflects actual sales of munitions to foreign countries.

Unobligated Balance Transferred from other Accounts: \$5,087 thousand transferred from FY1976 Procurement of Ammunition, Army.

Budget Authority is decreased by \$12,000 thousand transferred to the FY1978 Other Procurement, Army appropriation.

PROCUREMENT OF AMMUNITION, ARMY

Section 6

Selected Data Sheets

4-30 1/22/79

PROCUREMENT OF AMMUNITION, ARMY
PRODUCTION BASE SUPPORT
(\$ in Millions)

Service: Army

P-1 Line Item:

Projects

	FY 78 (381.9)	FY 79 (237.2)	FY 80 (343.2)
<u>Provision of Industrial Facilities - Construction Related</u>			
Construction Related to Annual Support/Modernization/Expansion Projects	41.5	(40.7)*	
SUB-TOTAL PROVISION OF INDUSTRIAL FACILITIES - Construction Related	41.5	(40.7)*	
<u>Provision of Industrial Facilities</u>			
<u>Annual Support</u>			
5791924 - Harry Diamond Lab: SPT - Pdn Spt & Equip Replacement		.9	
5795315 - Twin Cities AAP: SPT - Pdn Spt & Equip Replacement		1.2	
5800252 - Pine Bluff Ars: SPT - Pdn Spt & Equip Replacement	1.0	1.1	1.5
5804806 - ARRADCOM: SPT - Pdn Spt & Equip Replacement			1.0
5805060 - Jefferson Prvg Grd: SPT - Pdn Spt & Equip Replacement		1.1	1.8
5805314 - Louisiana AAP: SPT - Pdn Spt & Equip Replacement		1.6	2.5 (.7)

*Construction related costs included as part of project costs
() Indicates military construction and is included in project total

4-31 1/22/79

PROCUREMENT OF AMMUNITION, ARMY
PRODUCTION BASE SUPPORT
(\$ in Millions)

Projects	FY 78	FY 79	FY 80
<u>Provision of Industrial Facilities, Continued</u>			
5805316 - Lone Star AAP: SPT - Pdn Spt & Equip Replacement	1.0		2.3 (1.0)
5805317 - Milan AAP: SPT - Pdn Spt & Equip Replacement	1.6	1.8 (.3)	1.9 (.4)
5805326 - Radford AAP: SPT - Pdn Spt & Equip Replacement	1.6	2.7 (.6)	3.0 (1.4)
5805327 - Longhorn AAP: SPT - Pdn Spt & Equip Replacement	1.0	1.0	1.9 (.2)
5805328 - Holston AAP: SPT - Pdn Spt & Equip Replacement		2.5	2.3 (.8)
5805329 - Kansas AAP: SPT - Pdn Spt & Equip Replacement	1.1	1.0 (.5)	1.8
5805330 - Indiana AAP: SPT - Pdn Spt & Equip Replacement	1.0	2.1 (.7)	2.3 (.6)
5805332 - Lake City AAP: SPT - Pdn Spt & Equip Replacement	1.6	1.4 (.4)	1.7 (.1)
5805333 - Iowa AAP: SPT - Pdn Spt & Equip Replacement	.9	2.1 (.8)	
5805342 - Scranton AAP: SPT - Pdn Spt & Equip Replacement	1.1	2.1 (1.9)	2.4 (.7)
5805345 - Crane AAA: SPT - Pdn Spt & Equip Replacement			1.0
PROJECTS UNDER \$900,000 EACH	4.8	4.0	2.6 (.3)
SUB-TOTAL PRODUCTION SPT & EQUIP REPLACEMENT	16.7	26.0	30.0 (6.2)

PRODUCTION BASE SUPPORT
(\$ in Millions)

<u>Projects</u>	<u>FY 78</u>	<u>FY 79</u>	<u>FY 80</u>
<u>Provision of Industrial Facilities, Continued</u>			
<u>Initial Production Facilities</u>			
5782182 - Commercial: IPF - Acquisition of Equipment for VIPER Warhead Metal Parts and LAP	13.4		
5782312 - Radford AAP: IPF - 8in RAP Grain Propellant Facility	1.5		
5783074 - Commercial: IPF - Integrated Production Facility for XM734 Multi-Option Fuze for Mortars (Phase 2 of 2)	10.1		
5784869 -Commercial: IPF - Facility for LAP of Ground Emplaced Mine Scattering System (GEMSS) AP ZM74 and AT/AVXM75 Mines	11.5		
5790003 - Hawthorne AAP: IPF - SLUFAE Munitions Production Facilities		8.1	
5790012 - Crane AAA: IPF - 155mm/8 in Center Core Prop Charge		1.0	
5793601 - Indiana AAP: IPF - 60/81mm Prop Charges		1.0	
5793904 - X-Facility: IPF - Precision Time Fuze for ICM		18.4	
5794877 - X-Facility: IPF - Manufacturing Fac for Pdn of APFSDS Staballoy Penetrators		5.0	
5800037 - Pine Bluff Ars: Estab Cml Comp & Fill/LAP IPF for L8A1 Grenade			2.2

PROCUREMENT OF AMMUNITION, ARMY
PRODUCTION BASE SUPPORT
(\$ in Millions)

<u>Projects</u>	<u>FY 78</u>	<u>FY 79</u>	<u>FY 80</u>
<u>Provision of Industrial Facilities, Continued</u>			
<u>Initial Production Facilities</u>			
5803004 - X-Facility - Comm: M549/XM650 - RA Projectile Combined MPTS Production Line (Warhead and Motor Body)			25.4
 PROJECTS UNDER \$900,000 EACH	 .9		
 SUB-TOTAL INITIAL PRODUCTION FACILITIES (IPF)	 37.4	33.5	27.6
5782500 - Indiana AAP: MOD - 105mm M67 Bag Loading & Assembly Facility, Phase 2 of 2	16.8		
5782585 - AMRON Corp: MOD - PEP 20mm-30mm Steel Cartridge Case Facility, Phase 2 of 2	11.4		
5783147 - Joliet AAP: MOD - Modification to Continuous TNT Lines 17 & 18	1.1		
5785911 - Radford AAP: MOD - Replace Boiler Feedwater Treatment Sys	3.8		
5792419 - Volunteer AAP: MOD - Modifications to Industrial Liquid Waste Treatment Facility		2.0	
5792582 - Norris-Vernon: MOD - Manufacturing Facility f/Cart Cases, Phase 3 of 3	22.3	12.5	
5792720 - Milan AAP: MOD - Central X-Ray Facility		6.0 (4.8)	

PROCUREMENT OF AMMUNITION, ARMY
PRODUCTION BASE SUPPORT
(\$ in Millions)

<u>Projects</u>	<u>FY 78</u>	<u>FY 79</u>	<u>FY 80</u>
<u>Provision of Industrial Facilities, Continued</u>			
5792983 - Radford AAP: MOD - Fire Alarm System		2.4 (2.4)	
5792995 - Sunflower AAP: MOD - Igloo Magazines		2.4 (2.3)	
DRC: MOD - Equip Engineer and Design Costs	15.4	10.8	
COE: MOD - Constr Engineer and Design Costs	10.4	7.8	
PROJECTS UNDER \$900,000 EACH	.6	.1	
SUB-TOTAL MODERNIZATION	81.9	44.0 (9.5)	
<u>Expansion</u>			
5782181 - Commercial: EXP - VIPER Carborane Manufacturing Facility	2.5		
5782310 - Radford AAP: EXP - 155mm RAP Grain (Cast Version) Facility	5.3		
5782346 - Riverbank AAP: EXP - 60mm XM720 Annealing Facility	3.4		
5782709 - Milan AAP: EXP - LAP Facility for 60mm XM720 & 81mm M374A3	6.9		
5782765 - Iowa AAP: EXP - LAP Detonator Facility	14.6		
5783112 - Commercial: EXP - Production Facility for M567 PD Fuze	10.8		
5783506 - Milan AAP: EXP - LAP of 8in HE, M509 (ICM)	19.8		
5783531 - Commercial: EXP - M42/M46 Grenade Metal Parts for 155mm HE, M483 (ICM) and 8in HE, M509 (ICM) Projectiles	44.0		

PROCUREMENT OF AMMUNITION, ARMY
PRODUCTION BASE SUPPORT
(\$ in Millions)

<u>Projects</u>	<u>FY 78</u>	<u>FY 79</u>	<u>FY 80</u>
<u>Provision of Industrial Facilities, Continued</u>			
5783542 - Lone Star AAP: EXP - LAP Capacity for M732 Fuze	1.8		
5783548 - Commercial: EXP - M223 Fuze for 155mm HE, M483 (ICM) an 8in HE, M509 (ICM) Projectiles	10.0		
5793002 - X-Facility: EXP - Manufacturing Equip for Small Caliber Cartridge Case Cups		3.9	
5793109 - Milan AAP: EXP - Container Distribution Facility		2.1 (2.0)	
5793558 - Milan AAP: EXP - Production Facility for Fuze, PD, M739		18.0 (18.8)	
5793562 - Milan AAP: EXP - LAP of Mortar Fuzes		2.4 (1.2)	
5802003 - Longhorn AAP: SLUFAE Rocket Motor Facility			4.2
5802007 - Milan AAP: LAP of 60/81mm Propellant Charge Assembly			2.0
5802694 - Indiana AAP: 155mm/8inch Center Core LAP Facility			21.4 (9.9)
5802875 - Radford AAP: Continuous Automated Multi Base Line (CANBL)			98.8 (66.0)
5803106 - Lone Star AAP: Centralized Ammunition Container Facility			.9 (.9)
5803142 - Mississippi AAP: Fourth Phase Construction at 155mm ICM Complex	36.2	74.6 (22.0)	102.3
Omnibus Engineer-Process Equipment Design Construction Design			8.9 5.0

PROCUREMENT OF AMMUNITION, ARMY
PRODUCTION BASE SUPPORT
(\\$ in Millions)

<u>Projects</u>	<u>FY 78</u>	<u>FY 79</u>	<u>FY 80</u>
<u>Provision of Industrial Facilities, Continued</u>			
PROJECTS UNDER \$900,000 EACH	.8		
SUB-TOTAL EXPANSION	156.1	101.0	243.5 (76.8)
<u>Layaway of Industrial Facilities</u>			
5788450 - ARROOM: Layaway and/or Redistribution of Govt-owned Equip in Govt-owned Plants (Omnibus)	17.9	2.7	12.7
5789589 - ARROOM: Layaway and/or Redistribution of Govt-owned Equip in Privately-owned Plants (Omnibus)	4.5	1.8	2.0
SUB-TOTAL LAYAWAY OF INDUSTRIAL FACILITIES	22.4	4.5	14.7
<u>Manufacturing Methods and Technology</u>			
5784449 - MM&T: Process Improvement for Composition C-4 Manufacturing	1.0		
5784454 - MM&T: Automatic Inspection Devices of Explosive Charges in Shell (AIDECS)	1.3		
5786596 - MM&T: Ball Propellant Pilot Plant	1.1		
5786771 - MM&T: Explosive/Tracer Charging of 25mm to 30mm Ammunition	1.7		
5786772 - MM&T: Concepts for Assembly of 25mm to 30mm Ammunition	1.2		
5794000 - MM&T: Auto M55 Detonator Prod Equipment	1.4	1.6	

PROCUREMENT OF AMMUNITION, ARMY
PRODUCTION BASE SUPPORT
(\$ in Millions)

<u>Projects</u>	<u>FY 78</u>	<u>FY 79</u>	<u>FY 80</u>
<u>Manufacturing Methods and Technology, Continued</u>			
5794024 - MM&T: Auto Assembly Machine for M223 Fuze		1.1	
5794064 - MM&T: Auto LAP Operation for 105mm Tank Cartridge		1.2	
5794124 - MM&T: Fabrication of Control Actuation Systems Housings		1.6	
5794214 - MM&T: Pollution Engineering for 1983-85 Requirements	1.2	1.2	
5794281 - MM&T: Conservation of Energy at Army Ammo Plants	1.1	1.3	
5794444 - MM&T: Body for M42/M46 Grenade		1.0	
5794469 - MM&T: Automated Insertion of Grenade Layers		1.3	
5794498 - MM&T: Methods for Consolidation and Auto Assembly of Small Mines		1.1	
5796681 - MM&T: Process Parameters for Prod Forming of Projectiles		1.0	
5804137 - MM&T: Automated Loading of Center Core Igniters			1.0
5804189 - MM&T: High Fragmentation Steel Production Process			1.5
5804281 - MM&T: Conservation of Energy at Army Ammunition Plants			1.2
5804341 - MM&T: Improved Nitrocellulose Purification Process			1.0
5804454 - MM&T: Auto Insp Device Explos Charge Shell			1.3

Projects	FY 78	FY 79	FY 80
<u>Manufacturing Methods and Technology, Continued</u>			
PROJECTS UNDER \$900,000 EACH	15.7	15.8	21.5
SUB-TOTAL MANUFACTURING METHODS AND TECHNOLOGY	25.6	28.2	27.4
<u>Military Adaptation of Commercial Items</u>			
PROJECTS UNDER \$900,000 EACH	.3		
SUB-TOTAL MILITARY ADAPTATION OF COMMERCIAL ITEMS	.3		
TOTAL AMMUNITION PRODUCTION BASE	381.9	237.2	343.2 (83.0)

PROCUREMENT OF AMMUNITION, ARMY

Section 7

Analysis of Unobligated Balances

4-40 - 1/22/79

PROCUREMENT OF AMMUNITION, ARMY

Analysis of Unobligated Balance - FY 1980 Program *

Summary by Category

Category	Estimated Unobligated	
	Dollars (Millions)	% of Total Unobligated
1. Reserved to support contracts	392.4	68.0
2. Engineering changes	81.4	14.1
3. Other	103.3	17.9
Total Unobligated FY 1980	577.1	100.0%

Explanation by Category

It is predicted that the above amounts will remain unobligated at the end of FY 1980. Reasons for the unobligated balances here have been grouped into three general categories and are detailed below. These unobligated amounts will therefore be required in subsequent fiscal years to complete the procurement of the FY 1980 program.

1. Reserved to Support Contracts:

- Hold pending award of firm contracts as opposed to letter orders.
- Amounts reserved for incentive contract payments.
- Amounts held to support Product and Component Improvement programs; modification for retrofit during production; modifications ordered by customers.
- Contractor claims, reserves to cover potential liabilities for contracts containing escalation clauses for labor or material cost increases and price redeterminations.
- Contract close-out costs; packing, crating, handling and packaging and loading charges.
- Government-furnished equipment breakout procurements; federal excise tax and sales tax payments; preparation of manuals and technical data; and reserve for completion of construction elements of production base support facilities projects.
- Delay due to design or testing difficulties.
- Award protests.
- Insufficient procurement detail involving reimbursable orders.
- Develop adequate competitive procurement or technical data package.

PROCUREMENT OF AMMUNITION, ARMY (Continued)

- k. Items released to Army by other customers too late to permit obligation in FY 1980
- 2. Engineering Changes:
 - a. Engineering costs in support of production (obligated only as expenses are incurred).
 - b. Validated engineering change orders to be incorporated into the current manufacturing process.
 - c. Engineering changes as a result of acceptance testing, destructive and proving ground tests.
 - d. Amounts reserved to support engineering change proposals and value engineering proposals.
- 3. Other:
 - a. Changes to the previously planned method of procurement (i.e., competitive in lieu of sole source).
 - b. Extension to bid opening dates.
 - c. Additional time required to complete audits of cost data and to obtain contractor cost data.
 - d. Unfavorable pre-award surveys and extended negotiations.
 - e. Held pending validation of production capability of low bidder.
 - f. Attaining a satisfactory production rate prior to awarding additional work.

* Includes estimated FY79 carry-over and other customer reimbursable programs.

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DEPARTMENT OF THE ARMY

JUSTIFICATION OF ESTIMATES FOR FISCAL YEAR 1980

SUBMITTED TO CONGRESS

JANUARY 1979



PART 5 OF 5 PARTS
(OTHER)

PROCUREMENT

PROGRAMS

AIRCRAFT

MISSILES

WEAPONS & TRACKED COMBAT VEHICLES

AMMUNITION

OTHER

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DEPARTMENT OF THE ARMY
Office of the Deputy Chief of Staff
For
RESEARCH, DEVELOPMENT AND ACQUISITION

22 January 1979

DEPARTMENT OF THE ARMY
PROCUREMENT APPROPRIATIONS

Justification of Estimates for Fiscal Year 1980, 81 (Auth only)

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DEPARTMENT OF THE ARMY
Other Procurement, Army

Justification of Estimates for Fiscal Year 1980

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OTHER PROCUREMENT, ARMY

Section 1

Budget Appendix Extract

Language

Program and Financing Schedule

Object Classification Schedule

APPROPRIATION LANGUAGE

For construction, procurement, production, and modification of vehicles, including tactical, support, and nontracked combat vehicles; the purchase of not to exceed one hundred and thirty seventy one passenger motor vehicles for replacement only; (1) communications and electronic equipment; other support equipment; spare parts, ordnance and accessories therefor; specialized equipment and training devices; expansion of public and private plants, including the land necessary therefor, without regard to section 4774, title 10, United States Code, for the foregoing purposes, and such lands and interest therein, may be acquired, and construction prosecuted thereon prior to approval of title as required by section 355, Revised Statutes, as amended; and procurement and installation of equipment, appliances, and machine tools in public and private plants; reserve plant and Government and contractor-owned equipment layaway; and other expenses necessary for the foregoing purposes: \$1,642,250,000 and in addition \$40,000,000 which shall be derived by transfer from "Other Procurement, Army, 1976/1978" \$1,694,200,000 to remain available for obligation until September 30, 1981 1982. (2) (3)

(10 U.S.C. 2353, 3012, 4531, 4532, 31 U.S.C. 649c; Department of Defense Appropriation Act, 1979).

EXPLANATION OF LANGUAGE CHANGES

- (1) To change the number of passenger carrying vehicles authorized for procurement in FY 1980.
- (2) To change the amount of appropriation requested for FY 1980.
- (3) To change the obligation expiration date for the FY 1980 program.

Army

Other Procurement, Army

22 JAN 79

Program and Financing (in thousands of dollars)		Budget plan (amounts for procurement actions programmed)				Obligations	
Identification code	21-2035-0-1-051	1978 actual	1979 est.	1980 est.	1973 actual	1979 est.	1980 est.
Program by activities:							
Direct:							
1.	Tactical and support vehicles	374,792	261,500	115,000	308,401	232,506	200,560
2.	Communications and electronic equipment	706,303	1,048,650	1,131,300	661,615	858,343	942,083
3.	Other support equipment	378,154	372,100	449,300	253,037	405,691	496,513
Total direct		1,459,249	1,682,250	1,691,200	1,323,053	1,527,340	1,640,061
Reimbursable program (total)		214,456	273,400	252,500	42,053	225,670	258,339
Total		1,673,705	1,955,650	1,943,700	1,365,106	1,753,010	1,898,400
Financing:							
Offsetting collections from:							
11.00	Federal funds	-152,503	-195,200	-143,900	-155,569	-156,000	-143,900
13.00	Trust funds	-60,867	-78,200	-108,600	-55,215	-68,600	-108,600
14.00	Non-federal sources	-1,086			-1,087		
21.40	Unobligated balance available, start of year: For completion of prior year budget plans						
	Available to finance new budget plans	-11,500			-637,031	-802,373	-936,923
	Reprogramming from or to prior year budget plans	-78,163			-11,500		
22.40	Unobligated balance transferred from other accounts	-50,624			-50,624		
23.40	Unobligated balance transferred to other accounts	39,539			39,539		
24.40	Unobligated balance available, end of year: For completion of prior year budget plans				801,373	936,923	1,038,223
25.00	Unobligated balance lapsing	50,124			50,124		
Budget authority		1,408,925	1,682,250	1,694,200	1,408,625	1,682,250	1,694,200
Budget authority:							
40.00	Appropriation	1,403,325	1,642,250	1,694,200	1,403,325	1,642,250	1,694,200
42.00	Transferred from other accounts	5,300			5,300		
43.00	Appropriation (adjusted)						
50.01	Reappropriation	1,408,625	1,642,250	1,694,200	1,408,625	1,642,250	1,694,200
Relation of obligations to outlays:							
71.00	Obligations incurred, net						
72.40	Obligations balance, start of year				1,275,745	1,497,700	1,642,900
74.40	Obligations balance, end of year				1,026,027	1,478,527	2,017,827
77.00	Adjustments in expired accounts				-1,478,527	-2,017,827	-2,405,627
Outlays					15,772		
90.00		830,017	956,400		830,017	956,400	1,195,100

22 JAN 79

Other Procurement, Army

Object Classification (in thousands of dollars)

Identification code	21-2035-0-1-051	1976 actual	1979 est.	1980 est.
Direct obligations:				
22.0	Transportation of things	11,380	15	15
23.2	Communications, utilities and other rent	124,165	173,831	173,831
25.0	Other services:	118,937	165,893	168,342
	Other	1,071,060	1,117,601	1,297,873
26.0	Supplies and materials			
31.0	Equipment	1,325,563	1,527,340	1,640,061
	Total direct obligations			
Reimbursable obligations:				
22.0	Transportation of things	2,203		
25.0	Other services:	15,740	41,877	35,526
	Other	14,602	40,392	34,505
26.0	Supplies and materials	110,508	143,391	185,005
31.0	Equipment			
	Total reimbursable obligations	143,053	225,660	255,339
99.0	Total obligations	1,468,616	1,753,000	1,895,400

Army Other Procurement, Army 22 JAN 79

Program and Financing (in thousands of dollars) 1976 Fiscal year program obligations

Identification code 21-2035-0-1-051 Budget plan (amounts for procurement actions programmed) 1978 actual 1979 est. 1980 est. 1978 actual 1979 est. 1980 est.

Program by activities:

Direct:

1. Tactical and support vehicles 3,777

2. Communications and electronics equipment 43,423

3. Other support equipment 13,432

Total direct 60,632

Reimbursable program (total) 3,441

Total 64,076

Financing:

Offsetting collections from:

11.00 Federal funds 7,020

13.00 Trust funds 14,727

14.00 Non-federal sources 1

21.40 Unobligated balance available, start of year: 143,174

For completion of prior year budget plans -5,200

Available to finance new budget plans -57,350

23.40 Reprogramming from or to prior year budget plans 21,840

Unobligated balance transferred to other accounts 40,710

25.00 Unobligated balance lapsing

Budget authority

Army

Other Procurement, Army

22 JAN 79

Program and Financing (in thousands of dollars)		1971 Fiscal year program			
		Budget plan (amounts for procurement actions programmed)		Obligation	
Identification code	21-2035-0-1-051	1978 actual	1979 est.	1979 actual	1980 est.
Program by activities:					
Direct:					
1.	Tactical and support vehicles			3,482	
2.	Communications and electronics equipment			15,072	
3.	Other support equipment			6,004	
	Total direct			24,558	
	Reimbursable program (total)			900	
10.00	Total			25,458	
Financing:					
Offsetting collections from:					
11.00	Federal funds			3,376	
13.00	Trust funds			1,940	
21.40	Unobligated balance available, start of year:				
	For completion of prior year budget plans			-52,167	
23.40	Reprogramming from or to prior year budget plans				
	Unobligated balance transferred to other accounts				
25.00	Unobligated balance lapsing			8,109	
	Budget authority			9,414	

22 JAN 79

Other Procurement, Army

Army

Program and Financing (in thousands of dollars)				1977 Fiscal year program	
				Obligations	
Identification code	21-2035-0-1-051	Budget plan (amounts for procurement actions programmed)			
		1978 actual	1979 est.	1978 actual	1979 est.
Program by activities:					
Direct:					
1.	Tactical and support vehicles			12,760	12,180
2.	Communications and electronics equipment			182,996	114,062
3.	Other support equipment			82,805	54,491
	Total direct			278,561	180,733
	Reimbursable program (total)			17,487	9,088
10.00	Total			296,048	189,821
Financing:					
Offsetting collections from:					
11.00	Federal funds			5,528	8,700
13.00	Trust funds			-11,115	0.00
14.00	Non-federal sources				
21.40	Unobligated balance available, start of year:				
	For completion of prior year budget plans			-501,690	-507,321
	Available to finance new budget plans			6,300	
	Reprogramming from or to prior year budget plans				
	Unobligated balance transferred to other accounts			9,500	
23.40					
24.40	Unobligated balance available, end of year:				
	For completion of prior year budget plans			107,921	
	Budget authority				

Program and Financing (in thousands of dollars)			1979 Fiscal year program		
Identification code	21-2035-0-1-051	Budget plan (amounts for procurement actions programmed)	Obligations		
			1978 actual	1979 est.	1980 est.
Program by activities:					
Direct:					
1.	Tactical and support vehicles	374,792	288,382	15,000	67,410
2.	Communications and electronics equipment	706,303	419,114	146,981	124,113
3.	Other support equipment	378,154	250,136	60,000	69,016
	Total direct	1,459,249	958,032	275,981	260,041
	Reimbursable program (total)	214,456	121,224	71,670	36,740
10.00	Total	1,673,705	1,079,254	297,651	296,801
Financing:					
Offsetting collections from:					
11.00	Federal funds	-152,503	-152,503		
13.00	Trust funds	-60,867	-60,867		
14.00	Non-federal sources	-1,086	-1,086		
21.40	Unobligated balance available, start of year:				
	For completion of prior year budget plans				
22.40	Unobligated balance transferred from other accounts	-50,824		-594,452	-296,801
24.40	Unobligated balance available, end of year:				
	For completion of prior year budget plans		594,452	296,801	
	Budget authority	1,408,625	1,408,625		
Budget authority:					
40.00	Appropriation	1,403,325	1,403,325		
42.00	Transferred from other accounts	5,300	5,300		
33.00	Appropriation (adjusted)	1,408,625	1,408,625		

Army		Other Procurement, Army		22 JAN 79	
Identification code		21-2035-0-1-051		1979 Fiscal year program	
Program and Financing (in thousands of dollars)		Budget plan (amounts for procurement actions programmed)		Obligations	
		1978 actual	1979 est.	1979 actual	1980 est.
Program by activities:					
Direct:					
10.00	1. Tactical and support vehicles	261,500	261,500	201,326	34,350
	2. Communications and electronics equipment	1,048,650	1,048,650	627,800	169,010
	3. Other support equipment	372,100	372,100	291,500	58,500
	Total direct	1,682,250	1,682,250	1,120,626	261,860
	Reimbursable program (total)	273,400	273,400	144,902	84,754
	Total	1,955,650	1,955,650	1,265,528	346,614
Financing:					
Offsetting collections from:					
11.00	Federal funds	-195,200	-195,200	-195,200	
13.00	Trust funds	-78,200	-78,200	-78,200	
21.40	Unobligated balance available, start of year:				-690,122
24.40	For completion of prior year budget plans:				
	Unobligated balance available, end of year:			690,122	343,708
	For completion of prior year budget plans:				
	Budget authority	1,682,250	1,682,250	1,682,250	
	Budget authority:				
40.00	Appropriation	1,642,250	1,642,250	1,642,250	
50.01	Resporopriation	40,000	40,000	40,000	

Army		Other Procurement, Army		22 JAN 79	
		Program and Financing (in thousands of dollars)		1980 Fiscal year program	
Identification code 21-2035-0-1-051		Budget plan (amounts for procurement actions programmed)		Obligations	
		1978 actual	1979 est.	1980 est.	1979 est.
Program by activities:					
Direct:					
1. Tactical and support vehicles					
2. Communications and electronics equipment					
3. Other support equipment					
Total direct					
Reimbursable program (total)					
Total					
10.00			115,000		98,800
			1,130,300		649,360
			448,900		370,200
			1,694,200		1,118,360
			1,252,500		133,825
			1,946,700		1,252,185
Financing:					
Offsetting collections from:					
11.00	Federal funds		-143,900		-143,900
13.00	Trust funds		-108,600		-108,600
24.40	Unobligated balance available, end of year:				
	For completion of prior year budget plans				
	Budget authority		1,694,200		1,694,200

Army

Other Procurement, Army

22 JAN 79

(Supplemental now requested under existing legislation)

Program and Financing (in thousands of dollars)					
Identification code	21-2035-1-1-051	Budget plan (amounts for procurement actions programmed)		Obligations	
		1978 actual	1979 est.	1978 actual	1979 est.
Program by activities:					
Direct:					
1.	Tactical and support vehicles	800	416	216	
2.	Communications and electronics equipment	44,200	22,636	11,661	
3.	Other support equipment	24,900	12,948	6,723	
10.00	Total	69,900	36,000	18,600	
Financing:					
21.40	Unobligated balance available, start of year:				-33,900
	For completion of prior year budget plans				
24.40	Unobligated balance available, end of year:				
	For completion of prior year budget plans		33,900	15,300	
40.00	Budget authority (proposed supplemental appropriation)	69,900	69,500		
Relation of obligations to outlays:					
71.00	Obligations incurred, net		36,000	18,600	
72.40	Obligated balance, start of year			33,400	
74.40	Obligated balance, end of year		-33,400	-35,100	
90.00	Outlays		2,600	16,900	

OTHER PROCUREMENT, ARMY

Section 2

Introductory Statement

5-11 - 1/22/79

DEPARTMENT OF THE ARMY
ANNUAL BUDGET ESTIMATES

Appropriation:	FY 1980
Other Procurement, Army	Budget

Section 2 - INTRODUCTORY STATEMENT

This appropriation finances the acquisition of: (a) Tactical and commercial vehicles including trucks, semi-trailers, and trailers of all types to provide mobility and utility support to field forces and the worldwide logistical system; (b) communications and electronics equipment of all types to provide fixed, semifixed, and mobile strategic and tactical communications equipment; (c) other support equipment such as chemical defensive equipment, tactical bridging, shop sets, construction equipment, floating and rail equipment, generators and power units, material handling equipment, medical support equipment, special equipment for user testing and nonsystem training devices. In each of these activities funds are also included for modification of in-service equipment, investment spares and repair parts, and production base support.

OTHER PROCUREMENT, ARMY

Section 3

Summary of Requirements

5-13 - 1/22/79

SUMMARY OF REQUIREMENTS (In Thousands of Dollars)

Appropriation:	FY 1978 Actual	FY 1979 Estimate	FY 1980 Estimate
OTHER PROCUREMENT, ARMY			
Tactical and Support Vehicles	374,792	262,300	115,000
Communications and Electronics Equipment	706,303	1,092,850	1,130,300
Other Support Equipment	378,154	397,000	448,900
Total Direct Program Reimbursable Program	1,459,249 214,456	1,752,150 273,400	1,694,200 252,500
TOTAL PROGRAM REQUIREMENTS	1,673,705	2,025,550	1,946,700
Less: Portion of program to be obligated in subsequent fiscal years	594,252	724,022	694,515
Plus: Obligations incurred against prior year program funds	389,163	487,492	643,215
TOTAL OBLIGATIONS	1,468,616	1,789,000	1,895,400

OTHER PROCUREMENT, ARMY

Section 4

Budget Activity Justifications

- Activity 1 - Tactical and Support Vehicles
- Activity 2 - Communications and Electronics Equipment
- Activity 3 - Other Support Equipment

Department of the Army Annual Budget Estimates JUSTIFICATION	Appropriation Other Procurement, Army	FY 1980	
		Budget	
		(In Thousands of Dollars)	
Budget Program or Budget Project Account	Actual Fiscal Year 1978	Estimate	
		Fiscal Year 1979	Fiscal Year 1980
Activity 1 - Tactical and Support Vehicles			
Direct Obligations or Direct Budget Plan	\$ 374,792	\$ 262,300	\$ 115,000

Section 1 - PURPOSE AND SCOPE

These funds provide for the procurement and manufacture of tactical and support vehicles and associated equipment. The tactical vehicles are of the type normally used by operation and support forces, and include prime movers and general purpose vehicles usually equipped with multi-wheel drive to satisfy cross-country mobility needs. Commercial vehicles being procured for these forces in lieu of military designed vehicles are referred to as "commercial substitute (C/S)" vehicles. The support vehicles are of the administrative type which are generally equipped with two-wheel drive and are commercial in nature; included are buses, sedans, truck tractors, and associated vehicles.

Section 2 - JUSTIFICATION OF FUNDS REQUESTED

The major categories of vehicles included in the request are: Tactical Vehicles - \$82.1 million for 4,679 tactical trailers, semitrailers and trucks (\$37.8 million of this amount is for commercial items being substituted for military design vehicles); Commercial Vehicles - \$9.8 million for vehicles used in administrative support, and maintenance and service tasks worldwide; Support Equipment and Facilities - \$23.1 million for spares and repair parts and production base support.

Department of the Army Annual Budget Estimates	Appropriation	FY 1980	
		Budget	
		JUSTIFICATION	
Budget Program or Budget Project Account		(In Thousands of Dollars)	
Activity 2 - COMMUNICATIONS AND ELECTRONICS EQUIPMENT		Actual	Estimate
		Fiscal Year 1978	Fiscal Year 1979
Direct Obligations or Direct Budget Plan		\$ 706,303	\$ 1,092,850
			\$ 1,130,300

Section 1 - PURPOSE AND SCOPE

These funds provide for procurement, manufacture, depot rebuild facilities equipment, modification and production base support of communications and electronics equipment and high dollar value depot repairable assemblies/components for initial provisioning and replenishment requirements. Funds are included for Satellite Communications, radio, countermeasures, combat wire communications, night vision, photographic, combat surveillance, target acquisition, strategic, tactical, communications securing and electronics equipment.

Section 2 - JUSTIFICATION OF FUNDS REQUIRED

This request supports the Army's requirements for both tactical and strategic communications worldwide and includes: \$2.5 million for US Readiness Command Communications; \$39.9 million for Joint Tactical Communications (TRI-TAC); \$93.2 million for Combat Support Communications; \$12.0 million for Strategic Communications (STARCOM/NDCCS); \$12.9 million for Long Haul Communications (DCS); \$110.0 million for Defense Satellite Communications; \$30.8 million for Tactical Satellite Communications; \$107.6 million for Communications Security Equipment; \$24.1 million for Base Communications; \$3.6 million for National Military Command System Communications; and \$2.0 million for Test, Measurement, and Diagnostic Equipment (Telecommunications). These communications are essential to field, and sustain in the field, the combat elements of the Army and to provide command and control over these forces by the National Command Authorities, the Joint Chiefs of Staff, and others in the chain of command.

Department of the Army
Annual Budget Estimates

FY 1980

JUSTIFICATION

Appropriation
OTHER PROCUREMENT, ARMY

Budget
Budget Program or Budget Project Account
Activity 2 - COMMUNICATIONS AND ELECTRONICS EQUIPMENT

This request also provides for other electronics systems and equipment including: \$28.0 million for Intelligence Support; \$6.3 million for the General Defense Intelligence Program; \$196.0 million for Automatic Data Processing Equipment; \$6.4 million for Audio Visual Equipment; \$26.9 million for Electronic Warfare; \$277.3 million for Tactical Electronics consisting of Surveillance, Target Acquisition and Night Observation (STANO) equipment; \$14.7 million for Test, Measurement, and Diagnostic Equipment (Other Electronics); and \$136.1 million for Support Equipment and Facilities including Spares and Repair Parts (\$120.6 million), Depot Rebuild Facilities Equipment (\$3.2 million), and Production Base Support (\$12.3 million). The equipment in these categories is required to sustain troops in combat, provide electronic advantages and protection to the individual soldier, and to help him carry the battle to the enemy. It also provides for sustaining the production base to exploit latest developments in miniaturization, solid state circuitry, and modular fabrication.

The FY 80 budget provides C-E systems and equipments necessary to modernize and improve the communications-electronics posture of the Army in order to provide reduced reaction times, greater efficiency in strategic and tactical developments, and maximum utilization of limited resources available.

Department of the Army Annual Budget Estimates JUSTIFICATION	Appropriation OTHER PROCUREMENT, ARMY	FY 1980	
		Budget	
		(In Thousands of Dollars)	
		Actual Fiscal Year 1978	Estimate Fiscal Year 1979 Fiscal Year 1980
Budget Program or Budget Project Account			
ACTIVITY 3 - OTHER SUPPORT EQUIPMENT			
Direct Obligations or Direct Budget Plan		\$ 378,154	\$ 397,000 \$ 448,900

Section 1 - PURPOSE AND SCOPE

These funds provided for procurement, manufacture, and conversion of combat support, construction, water and rail, generator, materials handling, and medical support equipment. These funds also provide for initial and replenishment spares and production base support associated with this activity.

Section 2 - JUSTIFICATION AND FUNDS REQUESTED

The requested program is necessary to provide \$18.1 million for tactical bridging equipment; \$27.9 million for protective chemical equipment; \$9.7 million for major assemblies for Medical Unit Self-Contained Transportable (MUST) Hospital; \$8.8 million for mobile field kitchens; \$5.3 million for POL equipment; \$8.7 million for secondary transfer calibration equipment; \$14.6 for Position Azimuth Determining Systems; \$4.9 for mine dispensing equipment; \$7.4 million for various air conditioners, \$40.4 for Universal Engineer Tractor (UET); \$7.0 for various cranes; \$20.8 million for air cushion vehicle; \$5.1 for railroad flatcars; \$30.4 million for forklifts; \$27.3 million for generators; \$62.0 million for medical support equipment; \$5.3 million for calibration set support; \$13.0 million for both initial and replenishment repair parts; \$10.3 million for the National Training Center; \$49.5 million for non-systems training devices; \$5.7 million for special equipment for user testing; \$16.7 million for various production base support projects; \$18.0 million for items with an acquisition value of less than \$900,000 and \$32.0 million for miscellaneous support equipment to include modifications to in-service equipment.

OTHER PROCUREMENT, ARMY

Section 5

Comparison of Program Requirements and Financing

Comparison of FY 1979 program requirements as reflected in the FY 1979 budget with FY 1979 program requirements as shown in the FY 1980 budget.

Comparison of FY 1979 financing as reflected in the FY 1979 budget with FY 1979 financing as shown in the FY 1980 budget.

Comparison of FY 1978 program requirements as reflected in the FY 1979 budget with FY 1978 program requirements as shown in the FY 1980 budget.

Comparison of FY 1978 financing as reflected in the FY 1979 budget with FY 1978 financing as shown in the FY 1980 budget.

COMPARISON OF FY 1979 PROGRAM REQUIREMENTS
AS REFLECTED IN FY 1979 BUDGET WITH
FY 1979 PROGRAM REQUIREMENTS AS SHOWN IN FY 1980 BUDGET

SUMMARY OF REQUIREMENTS (In Thousands of Dollars)		Increase (+) or Decrease (-)	
Appropriation:	OTHER PROCUREMENT, ARMY	Total Program Requirements Per FY79 Budget	Program Requirements Per FY80 Budget
Activity 1 - Tactical and Support Vehicles		284,400	262,300
Activity 2 - Communications and Electronics Equipment		1,098,900	1,092,850
Activity 3 - Other Support Equipment		405,900	397,000
	TOTAL	1,789,200	1,752,150

1. Tactical and Support Vehicles. The net decrease of \$22,100 thousand results from Congressional reductions of \$22,900 thousand and a supplemental increase of \$800 thousand. The \$22,900 thousand reduction includes \$2,700 thousand for Truck, 1/4 Ton, 4x4, ABT; \$5,000 thousand for Truck, Cargo, 10 Ton, 8x8; \$6,900 thousand or modification of In-Service Equipment; \$1,100 thousand for Items Less Than \$900,000 (TAC VEH-TAC) and \$2,700 thousand for First Destination Transportations. The \$800 thousand increase includes \$700 thousand for Truck, 2 1/2 Ton, 6x6, ABT and \$100 thousand for Items Less Than \$900,000 (TAC VEH).

2. Communications and Electronics Equipment. The net decrease of \$6,050 thousand results from Congressional reductions of \$50,250 thousand and a supplemental increase of \$44,200 thousand. The \$50,250 thousand reduction includes \$5,850 thousand general reduction for Communication Security Equipment; \$7,600 thousand general reduction for telecommunications equipment; \$15,000 thousand for Base Operating Information System (BASOPS); \$26,000 thousand for Tac Emir Loc/Ident System (TACELIS) and \$800 thousand for First Destination Transportation. The \$44,200 thousand increase includes \$5,000 thousand for TACT SAT COM (TACSATCOM); \$11,100 thousand for EUROM C3 System; \$6,500 thousand for BASE COMM (EUROM) and \$21,600 thousand for All Source Analysis Center (ASAC).

3. Other Support Equipment. The net decrease of \$8,900 thousand results from Congressional reductions of \$33,800 thousand and a supplemental increase of \$24,900 thousand. The \$33,800 thousand reduction includes \$1,800 thousand for Dispenser, Mine, XM 128 (GVDMs); \$11,200 thousand for MUST Components; \$6,000 thousand for Family of Military Engineer Construction Equipment (FAMECE); \$10,600 thousand for Tractor, Full Tracked, Universal (UET) and \$4,200 thousand for First Destination Transportation (OTH). The \$24,900 thousand increase includes \$1,400 thousand for Fuel System Supply Point; \$1,900 thousand for Pump Assy, Liq Gas, Whl 4 in out, 350 GPM; \$7,700 thousand for Shelter System, Collective Protective, CB M51; \$4,000 thousand for Shop Equipment, GP Repair, Semi-Trl Mtd; \$1,000 thousand for Tank/Pump Unit, Liq Disp f/Trk Mounting; \$300 thousand for Generators and Associated Equipment and \$8,600 thousand for Truck, Fork Lift, DE, PT, RT, 10000 LB.

COMPARISON OF FY 1979 FINANCING AS REFLECTED
IN THE FY 1979 BUDGET WITH FY 1979 FINANCING
AS SHOWN IN FY 1980 BUDGET

Appropriation	(In Thousands of Dollars)			Increase (+) or Decrease (-)
	Financing per FY 1979 Budget	Financing per FY 1980 Budget		
OTHER PROCUREMENT, ARMY				
Program Requirements, (Total)	2,249,900	2,025,550		- 224,350
Program Requirements (Service Account)	(1,789,200)	(1,752,150)		(- 37,050)
Program Requirements (Reimbursable)	(460,700)	(273,400)		(- 187,300)
Less:				
Anticipated reimbursements	460,700	273,400		- 187,300
Reprogramming from prior year budget plans	-0-	-0-		-0-
Unobligated balance available from prior year to finance new budget plans	-0-	-0-		-0-
Unobligated balance transferred from other accounts	-0-	-0-		-0-
Add:				
Unobligated balance transferred to other accounts	-0-	-0-		-0-
Unobligated balance available to finance subsequent year budget plans	-0-	-0-		-0-
	1,789,200	1,752,150		- 37,050
BUDGET AUTHORITY				
Appropriation	1,789,200	1,642,250		- 146,950
Reappropriation	-0-	+ 109,900		+ 109,900
Appropriation (adjusted)	1,789,200	1,682,250		- 37,050

EXPLANATION OF CHANGES IN FINANCING

Anticipated reimbursements. The anticipated decrease of \$187,300 for reimbursable orders results from a decrease in sales to foreign governments.

COMPARISON OF FY 1978 PROGRAM REQUIREMENTS
AS REFLECTED IN FY 1979 BUDGET WITH
FY 1978 PROGRAM REQUIREMENTS AS SHOWN IN FY 1980 BUDGET

Appropriation:	OTHER PROCUREMENT, ARMY	SUMMARY OF REQUIREMENTS (In Thousands of Dollars)	
		Total Program Requirements Per FY 79 Budget	Program Requirements Per FY 1980 Budget
			Increase (+) or Decrease (-)
Activity 1 - Tactical and Support Vehicles		338,000	374,792
Activity 2 - Communications and Electronics Equipment		706,625	706,303
Activity 3 - Other Support Equipment		373,400	378,154
		1,418,025	1,459,249
	TOTAL		+ 36,792
			- 322
			+ 4,754
			+ 41,224

1. Tactical and Support Vehicles. The net increase of \$36,792 thousand results from reprogramming increases of \$44,424 thousand and decreases of \$7,632 thousand. The \$44,424 thousand increase includes \$32,924 thousand for Truck, 5 Ton, 6x6 ABT; \$1,300 thousand for Trailer, Tank, Water, 400 gallon 1 1/2 ton; \$1,900 thousand for Truck, 2 1/2 Ton, 6x6 (ABT); \$1,400 thousand for Automobile, Sedan, Light and \$6,900 thousand for other miscellaneous lines. The decrease of \$7,632 thousand includes \$1,800 thousand for Truck, Tractor, Equipment Transporter, XM 916 (C/S); \$4,800 thousand for Spares and Repair Parts and \$1,032 thousand on other miscellaneous lines.
2. Communications and Electronics Equipment. The net decrease of \$322 thousand results from reprogramming increases of \$32,200 thousand and decreases of \$32,522 thousand. The \$32,200 thousand increase includes \$1,700 thousand for Digital Message Entry Device; \$2,300 thousand for AUTODIN I (DSC); \$1,900 thousand for Test Equipment, Auto, ST-51; \$1,900 thousand for ADPE for Non-Tactical Management Information Equipment; \$1,200 thousand for Tactical Management Information System (TACMIS); \$1,900 thousand for Battery Charger, PP-7286U; \$1,500 thousand for Radar Set, Mortar Locating, AN/TPQ-36; \$1,900 thousand for Test Equipment, AN/USM 410 and \$17,900 thousand on other miscellaneous lines. The decrease of \$32,522 thousand includes \$3,200 thousand for Med Trns Term Equipment, AN/MS-61 (DSCS); \$7,300 thousand for Tactical Fire Direction System, AN/GSC-10; \$6,600 thousand for Night Vision Goggles, AN/PVS-5; \$4,700 thousand for Spares and Repair Parts; and \$10,722 thousand for other miscellaneous lines.
3. Other Support Equipment. The net increase of \$4,754 thousand results from reprogramming increases of \$35,400 thousand and decreases of \$30,646 thousand. The \$35,400 thousand increase includes \$1,800 thousand for Firetrucks; \$15,100 thousand for Shelter, Flexible Barrier; \$2,200 thousand for Water Purification Unit, 400 GPH; \$4,900 thousand for STE/ICE and \$11,400 thousand for other miscellaneous lines. The \$30,646 thousand decrease includes \$1,800 thousand for Alarm, M8 Series; \$2,700 thousand for Hose/line Outfit Fuel Handling; \$1,400 thousand for Loader, Scoop Type, 4-5 cu yd (CCE); \$5,700 thousand for Truck, Fork Lift, 10,000 lb; \$3,600 thousand for Medical Support Equipment; and \$15,446 thousand for other miscellaneous lines.

COMPARISON OF FY 1978 FINANCING AS REFLECTED
IN THE FY 1979 BUDGET WITH FY 1978 FINANCING
AS SHOWN IN FY 1980 BUDGET

	(In Thousands of Dollars)		
	Financing Per FY 1978 Budget	Financing Per FY 1980 Budget	Increase (+) or Decrease (-)
OTHER PROCUREMENT, ARMY			
Appropriation:			
Program Requirements, (Total)	1,572,125	1,673,705	+101,580
Program Requirements (Service Account)	(1,418,025)	(1,459,249)	(+ 41,224)
Program Requirements (Reimbursable)	(154,100)	(214,456)	(+ 60,356)
Less:			
Anticipated reimbursements	154,100	214,456	+ 60,356
Reprogramming from prior year budget plans	-0-	-0-	-0-
Unobligated balance available from prior year to finance new budget plans	-0-	-0-	-0-
Unobligated balance transferred from other accounts	17,700	50,624	+ 32,924
Add: Unobligated balance transferred to other accounts	-0-		
Unobligated balance available to finance subsequent year budget plans	-0-	-0-	-0-
BUDGET AUTHORITY	1,400,325	1,408,625	+ 8,300
Appropriation	1,403,325	1,403,325	-0-
Transferred to other accounts	3,000	-0-	- 3,000
Transferred from other accounts	-0-	5,300	+ 5,300
Appropriation (adjusted)	1,400,325	1,408,625	+ 8,300

EXPLANATION OF CHANGES IN FINANCING

1. Anticipated reimbursements. The anticipated decrease by \$235,692 for reimbursable orders results from a decrease in sales to foreign governments.
2. Unobligated balances transferred from other accounts. \$32,924 was transferred from fiscal year FY 76/77 for procurement of 5 ton trucks by Congressional action.

OTHER PROCUREMENT, ARMY

Section 6

Selected Data Sheets

<u>Budget Activity</u>	<u>Page No.</u>
1. Tactical and Support Vehicles	5-26
2. Communications and Electronics Equipment	5-40

OTHER PROCUREMENT, ARMY
Tactical Vehicle Data Sheet

Service: Army

P-1 Line Item: 1

Nomenclature: Chassis, Trailer, Gen, 2 1/2 Ton, 2W, M200A1

Description/Mission: A wheeled tactical transport vehicle of the special equipment category designed to transport primarily Generators of 10-60 kilowatt capacity. It consists of a single drop axle trailer chassis without body. It has spring leaf suspension without shock absorbers.

Cost Data (\$ Mil):

	<u>FY 1978</u>		<u>FY 1979</u>		<u>FY 1980</u>	
	<u>Qty</u>	<u>Amt</u>	<u>Qty</u>	<u>Amt</u>	<u>Qty</u>	<u>Amt</u>
Weapons System Cost	778	2.4	-0-	-0-	691	2.5

Basis for FY 1980 Request: These chassis trailers are required to replace aging fleet and to improve the Army's overall readiness posture.

Contract Data:

Major Subsystem

Trailer

Contractor

To be selected

Type of Last Contract

Firm Fixed Price

5-26 - 1/22/79

Production Data:

	<u>FY 1978</u>	<u>FY 1979</u>	<u>FY 1980</u>	<u>FY 1981</u>
Funded	778	-0-	(691)	XXXX
Delivered	-0-	(778)	(150)	(541)
<u>Inventory/Objective:</u>				
	<u>End FY 1978 FDP 1/</u>	<u>End FY 1979 FDP</u>		<u>End FY 1980 FDP</u>
Force Units - DFE 2/	XXXX	XXXX		24
Inventory Objective	XXXX	XXXX		6897
One Hand/On Order	4966	4931		5537
% Inventory Objective Achieved	72.0	71.5		80.3

1/ FDP = Funded Delivery Period

2/ DFE = Division Force Equivalent

OTHER PROCUREMENT, ARMY
Tactical Vehicle Data Sheet

Service: Army

P-1 Line Item: 4

Nomenclature: Semitrailer, Breakbulk/Container 22 1/2T, XM871 (C/S)

Description/Mission: A commercially designed 22 1/2 ton dual purpose semitrailer, designed to be pulled by the 5-ton truck tractor. It will also be capable of operation with the Commercial Line Haul Tractor. It consists of a cargo bed and frame with side racks and stakes and a securement system for containers. This semitrailer is one of two which will eventually replace the 12-Ton Stake Semitrailer M127A2C in its entirety. The other is the 34-ton XM872. Since the present M127A2C is inadequate for expanded line haul/container hauling operations, this 22 1/2 Ton Semitrailer will be used primarily in forward areas where a limited degree of off-road mobility is required.

Cost Data (\$ Mil):

	FY 1978		FY 1979		FY 1980	
	Qty	Amt	Qty	Amt	Qty	Amt
Weapons System Cost	-0-	-0-	529	9.4	427	7.6

Basis for FY 1980 Request: These semitrailers are required to replace aging and difficult to maintain M127A2Cs and to improve the Army's overall readiness posture. This semitrailer provides the capability to transport containers of various sizes up to 20 feet in length.

Contract Data:

<u>Major Subsystem</u>	<u>Contractor</u>	<u>Type of Last Contract</u>
Trailer	To Be Selected	Fixed Price with Economic Price Adjustment

5-28 - 1/22/79

Production Data:

	<u>FY 1978</u>	<u>FY 1979</u>	<u>FY 1980</u>	<u>FY 1981</u>
Funded	-0-	529	(427)	XXXX
Delivered	-0-	(30)	(643)	(283)

Inventory/Objective:

	<u>END FY 1978 FDP 1/</u>	<u>END FY 1979 FDP</u>	<u>END FY 1980 FDP</u>
Force Units - DFE 2/	XXXX	XXXX	24
Inventory/Objective	XXXX	XXXX	4046
On Hand/On Order 3/	2010	2450	2770
% Inventory Objective Achieved	49.7	60.6	68.5

1/ FDP = Funded Delivery Period

2/ DFE = Division Force Equivalent

3/ Includes M127A2C semitrailer assets

OTHER PROCUREMENT, ARMY
Tactical Vehicle Data Sheet

Service: Army

P-1 Line Item: 5

Nomenclature: Semitrailer, Breakbulk/Container, 34T XM872 (C/S)

Description/Mission: A commercial design 34-ton dual purpose semitrailer designed to be pulled by the Commercial Line Haul Tractor. It consists of a cargo bed and frame with side racks and stakes and a securement system for containers. This semitrailer is one of two which will eventually replace the 12-ton stake semitrailer M127A2C in its entirety. The other is the 22 1/2 ton XM871. This 34-ton semitrailer will perform primarily in the line haul role in rear areas where off-road mobility is normally not required.

Cost Data (\$ Mil):

	FY 1978		FY 1979		FY 1980	
	Qty	Amt	Qty	Amt	Qty	Amt
Weapons System Cost	-0-	-0-	692	10.4	1485	27.6

Basis for FY 1980 Request: These semitrailers are required to replace aging and difficult to maintain M127A2Cs and to improve the Army's overall readiness posture. This semitrailer provides the capability to transport containers of various sizes up to 40 feet in length.

Contract Data:

Major Subsystem	Contractor	Type of Last Contract
Trailer	To Be Selected	Firm Fixed Price with Escalation

Production Data:

	<u>FY 1978</u>	<u>FY 1979</u>	<u>FY 1980</u>	<u>FY 1981</u>
Funded	-0-	692	(1485)	XXXX
Delivered	359	(1055)	(1279)	(1425)
<u>Inventory/Objective:</u>				
	<u>END FY 1978 FDP 1/</u>	<u>END FY 1979 FDP</u>		<u>END FY 1980 FDP</u>
Force Units - DFE 2/	XXXX	XXXX		24
Inventory Objective	XXXX	XXXX		7434
On hand/On order	1934	2599		4035
% Inventory Objective Achieved	26.0	35.0		54.3

1/ FDP = Funded Delivery Period

2/ DFE = Division Force Equivalent

OTHER PROCUREMENT, ARMY
Tactical Vehicle Data Sheet

Service: Army

P-1 Line Item: 11

Nomenclature: Trailer, Ammunition, 1 1/2 Ton, M332

Description/Mission: A two wheeled all steel trailer equipped with a landing leg, storage box and a hand operated parking brake used to transport ammunition.

Cost Data (\$Mil):

	FY 1978		FY 1979		FY 1980	
	Qty	Amt	Qty	Amt	Qty	Amt
Weapons System Cost	-0-	-0-	-0-	-0-	1559	\$9.2

Basic for FY 1980 Request: To fill troop unit shortages and Pre-position of Materiel Configured to Unit Sets (POMCUS) requirements.

Contract Data:

Major Subsystem	Contractor	Type of Last Contract
Trailer	To Be Selected	Firm Fixed Price

5-32 - 1/22/79

Production Data:

	<u>FY 1978</u>	<u>FY 1979</u>	<u>FY 1980</u>	<u>FY 1981</u>
Funded	-0-	-0-	1559	XXXX
Delivered	-0-	-0-	-0-	(1559)
<u>Inventory/Objective:</u>				
	<u>END FY 1978 FDP^{1/}</u>	<u>END FY 1979 FDP</u>		<u>END FY 1980 FDP</u>
Force Units - DFE <u>2/</u>	XXXX	XXXX		24
Inventory Objective:	XXXX	XXXX		5244
On hand/On order	3306	3265		4783
% Inventory Objective Achieved	63.0	62.3		91.2

1/ FDP = Funded Delivery Period

2/ DFE = Division Force Equivalent

OTHER PROCUREMENT, ARMY
Tactical Vehicle Data Sheet

Service: Army

P-1 Line Item: 14

Nomenclature: Truck, 1/4 Ton, 4x4, ABT

Description/Mission: This is a lightweight wheeled transport vehicle commonly known as the "jeep." The vehicle is powered by a 4-cylinder, liquid cooled, overhead valve, spark ignition, gasoline engine; has 4-wheel drive for cross-country mobility, comes in three body styles: utility, ambulance and weapons carrier.

Cost Data (\$ Mil):

	FY 1978		FY 1979		FY 1980	
	Qty	Amt	Qty	Amt	Qty	Amt
Weapons System Cost	3880	31.7	-0-	-0-	-0-	2.0

Basis for FY 1980 Request: FY 80 dollars are for second year of a Product Improvement Program (PIP) to put a new commercial diesel engine in the military jeep in FY83 timeframe. The PIP is required to meet clean air standards. FY80 funds are to finalize evaluation for selection of a preferred candidate by completing the following milestones: Design Test Vehicle Modifications, Perform Dynamometer Tests, Vehicle Environmental Tests and Vehicle Performance and Durability Tests.

Contract Date:

<u>Major Subsystem</u>	<u>Contractor</u>	<u>Type of Last Contract</u>
N/A	To Be Selected	Firm Fixed Price

Production Data:

	<u>FY 1978</u>	<u>FY 1979</u>	<u>FY 1980</u>	<u>FY 1981</u>
Funded	3880	-0-	-0-	XXXX
Delivered	7324	(2157)	-0-	-0-
<u>Inventory/Objective:</u>				
	<u>END FY 1978 FDP 1/</u>	<u>END FY 1979 FDP</u>		<u>END FY 1980 FDP</u>
Force Units - DFE 2/	XXXX	XXXX		24
Inventory Objective	XXXX	XXXX		73,095
On Hand/On Order	52,291	47,628		41,702
% Inventory Objective Achieved	71.5	65.2		57.1

1/ FDP = Funded Delivery Period

2/ DFE = Division Force Equivalent

OTHER PROCUREMENT, ARMY
Tactical Vehicle Data Sheet

Service: Army

P-1 Line Item: 17

Nomenclature: Truck, Cargo, 10 Ton, 8x8

Description/Mission: A wheeled tactical transport vehicle powered by an 8-cylinder, diesel engine. This truck will transport ammunition.

Cost Data (\$ Mil):

	FY 1978		FY 1979		FY 1980	
	Qty	Amt	Qty	Amt	Qty	Amt
Weapons System Cost	-0-	-0-	-0-	-0-	151	23.1

Basis for FY 1980 Request: Required to augment the ammunition transport capability. Eighteen of these trucks will be utilized in support of GRSR ammunition resupply concept testing.

Contract Data:

Major Subsystem

Truck

Contractor

To Be Selected

Type of Last Contract

No Previous Procurement

Production Data:

	<u>FY 1978</u>	<u>FY 1979</u>	<u>FY 1980</u>	<u>FY 1981</u>
Funded	-0-	-0-	151	XXXX
Delivered	-0-	-0-	-0-	(151)
<u>Inventory/Objective:</u>				
	<u>END FY 1978 FDP 1/</u>	<u>END FY 1979 FDP</u>	<u>END FY 1980 FDP</u>	
Force Units - DFE 2/	XXXX	XXXX	24	
Inventory Objective	XXXX	XXXX	3/	
On Hand/On Order	0	0	151	
% Inventory Objective Achieved	0	0	5.0	

1/ FDP = Funded Delivery Period

2/ DFE = Division Force Equivalent

3/ A formal requirement has been identified and will be definitized around Jun 79. It is conservatively estimated at 3000.

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DEPARTMENT OF THE ARMY JUSTIFICATION OF ESTIMATES FOR FISCAL YE--ETC(U)
JAN 79

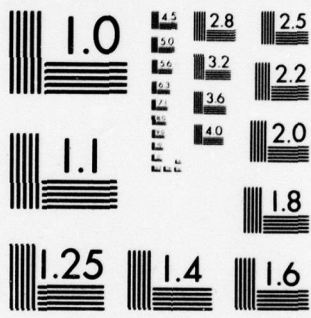
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MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS-1963-A

OTHER PROCUREMENT, ARMY
Tactical Vehicle Data Sheet

Service: Army

P-1 Line Item: 19

Nonclature: Truck, Tractor, Yard Type, XM878 (C/S)

Description/Mission: A commercial tractor designed to move and spot the 22 1/2 ton and 34 ton container transporter semitrailers at overseas terminal areas, trailer transfer points and marshalling yards. Vehicle is a highly maneuverable, low speed tractor with a hydraulic fifth wheel.

Cost Data (\$ Mil):

	FY 1978		FY 1979		FY 1980	
	Qty	Amt	Qty	Amt	Qty	Amt
Weapons System Cost	16	0.7	-0-	-0-	65	2.6

Basis for FY 1980 Request: These tractors are required for the activation of new units.

Contract Data:

Major Subsystem	Contractor	Type of Last Contract
Truck	To Be Selected	Firm Fixed Price

Production Data:

	<u>FY 1978</u>	<u>FY 1979</u>	<u>FY 1980</u>	<u>FY 1981</u>
Funded	16	-0-	65	XXXX
Delivered	16	-0-	(30)	(35)
<u>Inventory/Objective:</u>				
	<u>End FY 1978 FDP 1/</u>	<u>END FY 1979 FDP</u>		<u>END FY 1980 FDP</u>
Force Units - DFE 2/	XXXX	XXXX		24
Inventory Objective	XXXX	XXXX		247
On hand/On order	44	44		109
% Inventory Objective Achieved	17.8	17.8		44.1

1/ FDP = Funded Delivered Period

2/ DFE = Division Force Equivalent

OTHER PROCUREMENT, ARMY
Tactical Telecommunications Equipment Data Sheet

Service: Army

P-1 Line Item: 42

Nomenclature: JCSE Equipment (USREDCOM)

Description/Mission: An Army/USAF jointly equipped special activity under control of the JCS and assigned to the U.S. Readiness Command (USREDCOM). This element is a command control tactical field communications unit designed to provide rapid communications for a joint task force headquarters under any one of the unified/specified commanders.

Cost Data (\$ Mil):

	<u>FY 1978</u>		<u>FY 1979</u>		<u>FY 1980</u>	
	<u>Qty</u>	<u>Amt</u>	<u>Qty</u>	<u>Amt</u>	<u>Qty</u>	<u>Amt</u>
Weapons System Cost		.5		.6		2.5

Basis for FY 1980 Request: The Army is funding 50% of the equipment for the Joint Communications Support Element. FY 1980 program includes Automatic Telephone Central Office (AN/TTC-39(V)3) and Automatic Central Message Switch (AN/TYC-39(V)1). Denial of FY 1980 funds will delay interoperability of joint task force command communications with subordinate service commands, and will also delay modernization of equipment.

OTHER PROCUREMENT, ARMY
Tactical Telecommunications Equipment Data Sheet

Service: Army

P-1 Line Item: 43

Nomenclature: Central Office, Telephone, Automatic, AN/TTC-39(v)3

Description/Mission: A hybrid modular transportable tactical automatic switching equipment that provides circuit switching service for both analog and digital traffic. This is a 300-line version of the AN/TTC-39 switch.

Cost Data (\$ Mil):

	FY 1978		FY 1979		FY 1980	
	Qty	Amt	Qty	Amt	Qty	Amt
Weapons System Cost	-0-	-0-	-0-	-0-	3	6.8

Basis for FY 1980 Request: This is the first buy of the automatic circuit switch which is one of the pacing items for the Tri-Tac Communications Program.

Contract Data:

<u>Major Subsystem</u>	<u>Contractor</u>	<u>Type of Last Contract</u>
Central Office, AN/TTC-39(v)3	GTE Sylvania Needham, MA	None

Production Data:

	<u>FY 1978</u>	<u>FY 1979</u>	<u>FY 1980</u>	<u>FY 1981</u>	<u>FY 1982</u>
Funded	-0-	-0-	3	XXXX	XXXX
Delivered	-0-	-0-	-0-	-0-	(3)
<u>Inventory/Objective:</u>					
	<u>END FY 1978 FDP 1/</u>	<u>END FY 1979 FDP</u>	<u>END FY 1980 FDP</u>		
Force Units - DFE 2/	XXXX	XXXX			24
Inventory Objective	XXXX	XXXX			102
On Hand/On Order	-0-	-0-			3
% Inventory Objective Achieved	-0-	-0-			3

1/ FDP = Funded Deliver Period
2/ DFE = Division Force Equivalent

OTHER PROCUREMENT, ARMY
Tactical Telecommunications Equipment Data Sheet

Service: Army

P-1 Line Item: 44

Nomenclature: Central Office, Telephone, Automatic, AN/TTC-39(v)1

Description/Mission: A hybrid modular transportable tactical automatic switching equipment that provides circuit switching service for both analog and digital traffic. This is a 600-line version of the AN/TTC-39 switch.

Cost Data (\$ Mil):

	FY 1978		FY 1979		FY 1980	
	Qty	Amt	Qty	Amt	Qty	Amt
Weapons System Cost	-0-	-0-	-0-	-0-	1	3.6

Basis for FY 1980 Request: This is the first buy of the automatic circuit switch which is one of the pacing items for the Tri-Tac Communications Program.

Contract Data:

<u>Major Subsystem</u>	<u>Contractor</u>	<u>Type of Last Contract</u>
Central Office, AN/TTC-39(v)1	GTE Sylvania Needham, MA	None

Production Data:

	<u>FY 1978</u>	<u>FY 1979</u>	<u>FY 1980</u>	<u>FY 1981</u>	<u>FY 1982</u>
Funded	-0-	-0-	1	XXXX	XXXX
Delivered	-0-	-0-	-0-	-0-	(1)
<u>Inventory/Objective:</u>					
	<u>END FY 1978 FDP 1/</u>		<u>END FY 1979 FDP</u>		<u>END FY 1980 FDP</u>
Force Units - DFE 2/	XXXX		XXXX		24
Inventory Objective	XXXX		XXXX		11
On Hand/On Order	-0-		-0-		1
% Inventory Objective Achieved	-0-		-0-		9

1/ FDP = Funded Delivery Period
 2/ DFE = Division Force Equivalent

OTHER PROCUREMENT, ARMY
Tactical Telecommunications Equipment Data Sheet

Service: Army

P-1 Line Item: 45

Nomenclature: Central Message Switch, Automatic, AN/TYC-39(v)1

Description/Mission: A hybrid modular mobile transportable tactical and automatic switch that will provide, store, and forward service for message traffic. The AN/TYC-39 message switch can be used as a stand-alone switch or collocated and operated with an AN/TTC-39 circuit switch.

Cost Data (\$ Mil):

	<u>FY 1978</u>		<u>FY 1979</u>		<u>FY 1980</u>	
	<u>Qty</u>	<u>Amt</u>	<u>Qty</u>	<u>Amt</u>	<u>Qty</u>	<u>Amt</u>
Weapons System Cost	-0-	-0-	-0-	-0-	12	29.5

Basis for FY 1980 Request: This is the first-time buy of the automatic message switch which is one of the pacing items for the Tri-Tac Communication's Program.

Contract Data:

<u>Major Subsystem</u>	<u>Contractor</u>	<u>Type of Last Contract</u>
Central Message Switch AN/TYC-39(v)1	GTE Sylvania Needham, MA	None

Production Data:

	<u>FY 1978</u>	<u>FY 1979</u>	<u>FY 1980</u>	<u>FY 1981</u>	<u>FY 1982</u>
Funded	-0-	-0-	12	XXXX	XXXX
Delivered	-0-	-0-	-0-	-0-	(12)
<u>Inventory/Objective:</u>					
	<u>END FY 1978 FDP 1/</u>	<u>END FY 1979 FDP</u>	<u>END FY 1980 FDP</u>		
Force Units - DFE 2/	XXXX	XXXX	XXXX		24
Inventory Objective	XXXX	XXXX	XXXX		33
On Hand/On Order	-0-	-0-	-0-		12
% Inventory Objective Achieved	-0-	-0-	-0-		36

1/ FDP = Funded Delivery Period
2/ DFE Division Force Equivalent

OTHER PROCUREMENT, ARMY
Tactical Telecommunications Equipment Data Sheet

Service: Army

P-1 Line Item: 48

Nomenclature: Communications Central, AN/TSC-99

Description/Mission: A terminal to provide voice and data communications between special force base stations located in friendly territory and outpost detachments operating in enemy territory at distances up to 10,000 KM. The base station consists of two shelters - one receiver and one transmitter - and provides the capability of semiautomatic processing of all message traffic to and from users.

Cost Data (\$ Mil):

	FY 1978		FY 1979		FY 1980	
	Qty	Amt	Qty	Amt	Qty	Amt
Weapons System Cost	-0-	-0-	-0-	-0-	6	5.0

Basis for FY 1980 Request: To provide urgently needed equipment for special forces to replace the current AN/TSC-26 equipment which has poor reliability and is rapidly becoming obsolete.

Contract Data:

<u>Major Subsystem</u>	<u>Contractor</u>	<u>Type of Last Contract</u>
Communications Central, AN/TSC-99	To be selected	None

Production Data:

	<u>FY 1978</u>	<u>FY 1979</u>	<u>FY 1980</u>	<u>FY 1981</u>	<u>FY 1982</u>
Funded	-0-	-0-	6	XXXX	XXXX
Delivered	-0-	-0-	-0-	(4)	(2)
<u>Inventory/Objective:</u>					
	<u>END FY 1978 FDP 1/</u>	<u>END FY 1979 FDP</u>			<u>END FY 1980 FDP</u>
Force Units - DFE 2/	XXXX		XXXX		24
Inventory Objective	XXXX		XXXX		20
On Hand/On Order	-0-	-0-	-0-		6
% Inventory Objective Achieved	-0-	-0-	-0-		30

1/ FDP = Funded Delivery Period
 2/ DFE = Division Force Equivalent

OTHER PROCUREMENT, ARMY
Tactical Telecommunications Equipment Data Sheet

Service: Army

P-1 Line Item: 49

Nomenclature: Data Buffer, High Speed, TD-1065

Description/Mission: The TD-1065 is a device to provide access for wideband secure voice and high speed serial data signals, 16 to 32K bits second. It provides 12 channel digital transmission capability when used with multiplexer TD-352. Allows digital data from ADP terminals (TOS, TACFIRE, CS3) and wideband secure voice to be transmitted at high speed between centers thus enabling more traffic transmission.

Cost Data (\$ Mil):

	<u>FY 1978</u>		<u>FY 1979</u>		<u>FY 1980</u>	
	<u>Qty</u>	<u>Amt</u>	<u>Qty</u>	<u>Amt</u>	<u>Qty</u>	<u>Amt</u>
Weapons System Cost	0	0	0	0	430	7.9

Basis for FY 1980 Request: A second time buy to equip Army units with these urgently required items to enhance Army communications capability and to interface with the TRI-TAC Program.

Contract Data:

MAJOR SUBSYSTEM

Data Buffer, TD-1065

CONTRACTOR

Raytheon
Norwood, Mass.

TYPE OF LAST CONTRACT

OSS/FFP

Production Data:

	<u>FY 1978</u>	<u>FY 1979</u>	<u>FY 1980</u>	<u>FY 1981</u>	
Funded	0	0	430	XXXX	
Delivered	0	(40)	(640)	(320)	
<u>Inventory/Objective:</u>	<u>END FY 1978 FDP 1/</u>	<u>END FY 1979 FDP</u>	<u>END FY 1980 FDP</u>		
Force Units - DFE 2/	XXXX	XXXX	XXXX	XXXX	24
Inventory Objective	XXXX	XXXX	XXXX	XXXX	3825
On Hand/On Order	570	570	570	XXXX	1000
% Inventory Objective Achieved	15	15	15	XXXX	26

1/ FDP = Funded Delivery Period
 2/ DFE = Division Force Equivalent

OTHER PROCUREMENT, ARMY
Tactical Telecommunications Equipment Data Sheet

Service: ARMY

P-1 Line Item: 54

Nomenclature: Hand Crank Generator, G-76

Description/Mission: The G-76 is a hand crank generator to supply 30 volt D.C. output to power the AN/PRC-70 and the AN/PSC-1 directly, or to recharge the batteries for these equipments. The G-76 will be used by Special Forces units operating deep in enemy territory.

Cost Data (\$ Mil):

	<u>FY 1978</u>		<u>FY 1979</u>		<u>FY 1980</u>	
	<u>Qty</u>	<u>Amt</u>	<u>Qty</u>	<u>Amt</u>	<u>Qty</u>	<u>Amt</u>
Weapons System Cost	-0-	-0-	-0-	-0-	500	2.4

Basis for FY 1980 Request: This is a first time buy of this item. It will replace the G-43 Generator which is not adequate for the intended use.

Contract Data:

<u>Major Subsystem</u>	<u>Contractor</u>	<u>Type of Last Contract</u>
G-76 Hand Crank Generator	Simmonds Precision, Norwich, N. Y.	None

Production Data:

	<u>FY 1978</u>	<u>FY 1979</u>	<u>FY 1980</u>	<u>FY 1981</u>
Funded	-0-	-0-	500	XXXX
Delivered	-0-	-0-	-0-	(500)
<u>Inventory/Objective:</u>				
	<u>END FY 1978 FDP 1/</u>	<u>END FY 1979 FDP</u>		<u>END FY 1980 FDP</u>
Force Units - DFE 2/	XXXX	XXXX		24
Inventory Objective	XXXX	XXXX		1200 (Est)
On Hand/On Order	-0-	-0-		500
% Inventory Objective Achieved	-0-	-0-		42

1/ FDP = Funded Delivery Period
2/ DFE = Division Force Equivalent

OTHER PROCUREMENT, ARMY
Tactical Telecommunications Equipment Data Sheet

Service: Army

P-1 Line Item: 60

Nomenclature: Radio Repeater, AN/TRC-152

Description/Mission: The AN/TRC-152 is a 12/24 channel radio relay that is used in the Corps multichannel system. It can also be used as a radio terminal. The assemblage consists of radios (AN/GRC-103 Band IV) and multiplexers (TD-754 and TD-1250) all housed in a S-280 2½ ton shelter. The AN/TRC-152 will replace the old (10 to 20 yaah) tube type AN/TRC-110.

Cost Data (\$ Mil):

	FY 1978		FY 1979		FY 1980	
	Qty	Amt	Qty	Amt	Qty	Amt
Weapons System Cost	29	1.7	29	1.8	21	6.4

Basis for FY 1980 Request: Continue modernization and replacement of the 10 to 20 year old AN/TRC-110.

Contract Data:

Major Subsystem	Contractor	Type of Last Contract
Radio Set, AN/GRC-103, Band IV	To be selected	OSS/FFP
Multiplexer, TD-1250	To be selected	None
Multiplexer, TD-754	To be selected	A/FFP
Bare Shelter, S-280	To be selected	A/FFP

Production Data:

	<u>FY 1978</u>	<u>FY 1979</u>	<u>FY 1980</u>	<u>FY 1981</u>	<u>FY 1982</u>
Funded	29	29	21	XXXX	XXXX
Delivered	0	(6)	(52)	(2)	(19)

Inventory/Objective:

	<u>END FY 1978 FDP 1/</u>	<u>END FY 1979 FDP</u>	<u>END FY 1980 FDP</u>
Force Units - DFE 2/	XXXX	XXXX	24
Inventory Objective	XXXX	XXXX	549
On Hand/On Order	496 3/	475 4/	446 5/
% Inventory Objective Achieved	90 (7) 6/	87 (13) 6/	81 (15)

- 1/ FDP =Funded Delivery Period
2/ DFE = Division Force Equivalent
3/ Includes 456 substitute items, AN/TRC-110
4/ Includes 406 substitute items, AN/TRC-110
5/ Includes 356 substitute items, AN/TRC-110
6/ Perferred item percentages are in parenthesis.

OTHER PROCUREMENT, ARMY
Tactical Telecommunications Equipment Data Sheet

Service: ARMY

P-1 Line Item: 62

Nomenclature: Radio Set, AN/PRC-70

Description/Mission: The AN/PRC-70 is a rugged, lightweight multi-mode manpack radio designed specifically for long range patrol by U. S. Army Special Forces and Ranger Battalions. This radio meets both the short and long range communications requirements and will give these forces a single unit capability of netting with AM, FM, CW, SSB, FSK radios.

Cost Data (\$ Mil):

	FY 1978		FY 1979		FY 1980	
	Qty	Amt	Qty	Amt	Qty	Amt
Weapon System Cost	-0-	-0-	400	7.8	526	10.8

Basis for FY 1980 Request: At the present time, the Special Forces are relying on old (1950-1960) systems that require a combination of AN/GRC-109, AN/PRC-74, and AN/PRC-77 radios to meet their over-all need. Should the FY 1980 request be denied, these forces which are critical to the defense posture of the U.S., will continue to operate with equipments which have long exceeded their life expectancy and are now deteriorated to the point where maintenance requirements are causing serious impact on unit readiness and effectiveness.

Contract Data:

<u>Major Subsystem</u>	<u>Contractor</u>	<u>Type of Last Contract</u>
AN/PRC-70	Cincinnati Electronics, Corp	FFP

Production Data:

	<u>FY 1978</u>	<u>FY 1979</u>	<u>FY 1980</u>	<u>FY 1981</u>	<u>FY 1982</u>
Funded	-0-	400	526	XXXX	XXXX
Delivered	-0-	(22)	(235)	(420)	(399)
<u>Inventory/Objectives:</u>					
	<u>END FY 1978 FDP</u>	<u>1/</u>	<u>END FY 1979 FDP</u>	<u>END FY 1930 FDP</u>	
Force Units - DFE <u>2/</u>	XXXX		XXXX		24
Inventory Objective	XXXX		XXXX		2328
On Hand/On Order	150		550		1074
% Inventory Objective Achieved	6.4		23.6		46.1

1/ FDP = Funded Delivery Period

2/ DFE = Division Force Equivalent

OTHER PROCUREMENT, ARMY
Tactical Telecommunications Equipment Data Sheet

Service: ARMY

P-1 Line Item: 66

Nomenclature: Radio Terminal, AN/TRC-151

Description/Mission: A 12/24 channel secure radio terminal used for radio and telephone multichannel communications facilities in the Corps area. Replaces the older assemblages (AN/TRC-117) that use the 20 year old tube type radio, AN/GRC-50.

Cost Data (\$ Mil):

	FY 1978		FY 1979		FY 1980	
	Qty	Amt	Qty	Amt	Qty	Amt
Weapons System Cost	30	2.3	30	2.8	13	2.8

Basis for FY 1980 Request: Second year of procurement of the newer radio terminal to replace the older AN/TRC-117 assemblages that uses the 20-year old AN/GRC-50 radio. Should the FY 1980 request be denied, radio terminal service to Corps units will be degraded by the continued use of the unreliable and unsatisfactory 20-year old radio terminals.

Contract Data:

Major Subsystem	Contractor	Type of Last Contract
TD-754 Multiplexer	To Be Selected	OSS/FFP
TD-660 Multiplexer	To Be Selected	A/FFP
CV-1548 Converter	To Be Selected	A/FFP
S-280 Shelter	To Be Selected	A/FFP
MX-806 Antenna Fxt. Kit	To Be Selected	A/FFP
AN/GRC-103 Band IV Radio Set	To Be Selected	OSS/FFP
TD-1250 Multiplexer	To Be Selected	None

Production Data:

	<u>FY 1978</u>	<u>FY 1979</u>	<u>FY 1980</u>	<u>FY 1981</u>	<u>FY 1982</u>
Funded	30	30	13	XXXX	XXXX
Delivered	-0-	6	(54)	(2)	(11)

Inventory/Objective:

	<u>END FY 1978 FDP</u>	<u>1/</u>	<u>END FY 1979 FDP</u>	<u>END FY 1980 FDP</u>
Force Units - DFE <u>2/</u>	XXXX		XXXX	24
Inventory Objective	XXXX		XXXX	872
On Hand/On Order	623 <u>3/</u>		603 <u>4/</u>	566 <u>5/</u>
% Inventory Objective Achieved	71.4		69.2	64.9

- 1/ FDP = Funded Delivery Period
2/ DFE = Division Force Equivalent
3/ Includes 565 substitute items, AN/TRC-117
4/ Includes 515 substitute items, AN/TRC-117
5/ Includes 465 substitute items, AN/TRC-117

OTHER PROCUREMENT, ARMY
Tactical Telecommunications Equipment Data Sheet

Service: ARMY

P-1 Line Item: 68

Nomenclature: Small Unit Transceiver, AN/PRC-68

Description/Mission: The AN/PRC-68 Radio is a lightweight VHF (FM) single channel transceiver designed for use at the small unit level. The radio provides short range, two way voice communications on any of 1,000 available individual channels.

Cost Data (\$ Mil):

	FY 1978		FY 1979		FY 1980	
	<u>Qty</u>	<u>Amt</u>	<u>Qty</u>	<u>Amt</u>	<u>Qty</u>	<u>Amt</u>
Weapons System Cost	730	2.0	800	2.0	3802	9.3

Basis for FY 1980 Request: To provide AN/PRC-68 to high priority active Army units for use at the combat squad level and artillery battery level for small unit control and intrabattery communications. The radio will replace the current squad radios, AN/PRT-4 and AN/PRR-9. Should the FY 1980 request be denied, squad units must continue to use radios which are unreliable, have inadequate operating range, are crystal controlled, difficult to align, and consisting of two separate components, a transmitter and a helmet receiver.

Contract Data:

<u>Major Subsystem</u>	<u>Contractor</u>	<u>Type of Last Contract</u>
Small Unit Transceiver, AN/PRC-68	Magnavox	FPP

Production Data:

	<u>FY 1978</u>	<u>FY 1979</u>	<u>FY 1980</u>	<u>FY 1981</u>	<u>FY 1982</u>
Funded	730	800	3802	XXXX	XXXX
Delivered	-0-	-0-	(1425)	(2885)	(1022)

Inventory/Objective:

	<u>End FY 1978 FDP 1/</u>	<u>End FY 1979 FDP</u>	<u>End FY 1980 FDP</u>
Force Units - DFE <u>2/</u>	XXXX	XXXX	24
Inventory Objective	XXXX	XXXX	34,518
On Hand/On Order	730	1530	5,303
% Inventory Objective Achieved	2.1	4.4	15.4

1/ FDP = Funded Delivery Period

2/ DFE = Division Force Equivalent

OTHER PROCUREMENT, ARMY
Tactical Telecommunications Equipment Data Sheet

Service: ARMY

P-1 Line Item: 69

Nomenclature: VHF Transceiver Multicoupler

Description/Mission: The VHF Transceiver Multicoupler will have the capability of combining two to five tactical radio transceivers, each with a power output capability of 60 watts, on a single antenna. The Multicoupler used in combination with an omnidirectional broadband antenna, such as the OE-254, will result in a simpler, faster, and less detectable installation with reliable and predictable isolation between individual transceivers.

Cost Data (\$ Mil):

	<u>FY 1978</u>		<u>FY 1979</u>		<u>FY 1980</u>	
	<u>Qty</u>	<u>Amt</u>	<u>Qty</u>	<u>Amt</u>	<u>Qty</u>	<u>Amt</u>
Weapons System Cost	-0-	-0-	-0-	-0-	530	3.5

Basis for FY 1980 Request: To provide the VHF transceiver multicoupler to combat units at all echelons from theater down through battalion levels. This device will reduce the time required to set up or take down the communications complex for tactical command posts by reducing the required number of antennas. The smaller number of antennas will reduce both the visual and the electronic profile, thus reducing the detectability of the command post. The multicoupler, by providing reliable and predictable isolation between transceivers, will simplify frequency assignments and provide better spectrum utilization.

Contract Data:

<u>Major Subsystem</u>	<u>Contractor</u>	<u>Type of Last Contract</u>
VHF Transceiver Multicoupler	To Be Selected	None

Production Data:

	<u>FY 1978</u>	<u>FY 1979</u>	<u>FY 1980</u>	<u>FY 1981</u>	<u>FY 1982</u>
Funded	-0-	-0-	530	XXXX	XXXX
Delivered	-0-	-0-	-0-	(50)	(480)

Inventory/Objective:

	<u>End FY 1978 FDP 1/</u>	<u>End FY 1979 FDP</u>	<u>End FY 1980 FDP</u>
Force Units - DFE 2/	XXXX	XXXX	24
Inventory Objective	XXXX	XXXX	3500
On Hand/On Order	-0-	-0-	530
% Inventory Objective Achieved	-0-	-0-	15.1

1/ FDP = Funded Delivery Period
2/ DFE = Division Force Equivalent

OTHER PROCUREMENT, ARMY
Tactical Telecommunications Equipment Data Sheet

Service: Army

P-1 Line Item: 74

Nomenclature: Telephone, Field, TA-838

Description/Mission: A 2/4 wire telephone with Dual Tone Multi-Frequency (DTMF) tone generators, for signalling at all levels of employment. It is ruggedized, solid state, field telephone set designed for use with the automatic switchboards. Has keys for conference calls, priority calls and operator recall.

Cost Data (\$ Mil):

	FY 1978		FY 1979		FY 1980	
	Qty	Amt	Qty	Amt	Qty	Amt
Weapons System Cost	950	.6	-0-	-0-	5787	5.8

Basis for FY 1980 Request: To field the quantity of telephones required to support the automatic switchboards currently in the field.

Contract Data:

<u>Major Subsystem</u>	<u>Contractor</u>	<u>Type of Last Contract</u>
Telephone, Field TA- 838	To be Selected	CPN/FFP

Production Data:

	<u>FY 1978</u>	<u>FY 1979</u>	<u>FY 1980</u>	<u>FY 1981</u>	<u>FY 1982</u>
Funded	950	-0-	5787	XXXX	XXXX
Delivered	-0-	-0-	(75)	(3100)	(5787)

Inventory/Objective:

	<u>END FY 1978 FDP</u>	<u>1/</u>	<u>END FY 1979 FDP</u>	<u>END FY 1980 FDP</u>
Force Units - DFE 2/	XXXX		XXXX	24
Inventory Objective	XXXX		XXXX	24058
On Hand/On Order	8745		8658	14358
% Inventory Objective Achieved	36		36	60

1/ FDP = Funded Delivery Period

2/ DFE = Division Force Equivalent

OTHER PROCUREMENT, ARMY
Tactical Telecommunications Equipment Data Sheet

Service: Army

P-1 Line Item: 76

Nomenclature: Teletypewriter Terminal, AN/UGC-74

Description/Mission: A new tactical teletypewriter (TTY) with memory and high speed capabilities which removes the need for a family of four separate TTY equipments previously developed, and numerous older 1950 vintage equipments. Provides TTY capabilities over existing communications facilities to handle both tactical and administrative traffic.

Cost Data (\$ Mil):

	FY 1978		FY 1979		FY 1980	
	Qty	Amt	Qty	Amt	Qty	Amt
Weapons System Cost	-0-	1.8	-0-	-0-	3575	29.0

Basis for FY 1980 Request: Second year of a two year multiyear buy of this new teletypewriter to replace the older teletypewriters which are more than 20 years old.

Contract Data:

<u>Major Subsystem</u>	<u>Contractor</u>	<u>Type of Last Contract</u>
Teletypewriter, AN/UGC-74	Honeywell Info. System. Tampa, Fla.	A/FFP

Production Data:

	<u>FY 1978</u>	<u>FY 1979</u>	<u>FY 1980</u>	<u>FY 1981</u>	<u>FY 1982</u>
Funded	-0-	-0-	3575	XXXX	XXXX
Delivered	-0-	-0-	(2025)	(3525)	(488)
<u>Inventory/Objective:</u>					
	<u>End FY 1978 FDP 1/</u>	<u>End FY 1979 FDP</u>	<u>End FY 1980 FDP</u>		
Force Units - DFE 2/	XXXX	XXXX	XXXX		24
Inventory Objective	XXXX	XXXX	XXXX		11097
On Hand/On Order	2463	2463	2463		6038
% Inventory Objective Achieved	22	22	22		54

1/ FDP = Funded Delivery Period

2/ DFE = Division Force Equivalent

OTHER PROCUREMENT, ARMY
Other Telecommunications Equipment Data Sheet

Service: ARMY

P-1 Line Item: 80

Nomenclature: Deployable WWMCCS (DMC4)

Description/Mission: Deployable Worldwide Command and Control System (WWMCCS) Command, Control, and Communications Capability (DMC4) provides the commanders of the unified commands, an airborne/transportable package to rapidly deploy for crises management and joint military contingency operations. The system will provide jam-resistant circuits from deployed locations to the unified commands.

Cost Data (\$ Mil):

	FY 1978		FY 1979		FY 1980	
	<u>Qty</u>	<u>Amt</u>	<u>Qty</u>	<u>Amt</u>	<u>Qty</u>	<u>Amt</u>
Weapons System Cost		0		0		3.6

Basis for FY 1980 Request: Provides advance procurement of off-the-shelf military and commercially developed equipment using a system development/integration approach in lieu of a research and development effort.

OTHER PROCUREMENT, ARMY
Other Telecommunications Equipment Data Sheet

Service: ARMY

P-1 Line Item: 81

Nomenclature: Army Telecommunications Automation Program (ATCAP)

Description/Mission: ATCAP is designed to consolidate, automate, and standardize telecommunications centers and provide improved record traffic services and writer-to-reader message services to U.S. Forces commanders in the 50 United States and in Europe. These automated facilities are capable of supporting an increasing number of management information systems while providing more efficient narrative communications services with reduced manpower requirements.

Cost Data (\$ Mil):

	FY 1978		FY 1979		FY 1980	
	<u>Qty</u>	<u>Amt</u>	<u>Qty</u>	<u>Amt</u>	<u>Qty</u>	<u>Amt</u>
Weapons System Cost		10.1		6.3		12.0

Basis for FY 1980 Request: Provides Army with automated telecommunications center functions through the use of state-of-the-art standard remote terminals, teletypewriters, and automated multi-media exchanges; also provides automation of manual telecommunications center functions. Denial of FY 1980 funds will result in retention of telecommunications facilities which are inadequate to meet operational requirements of modern armed forces, and which are experiencing escalating maintenance costs.

OTHER PROCUREMENT, ARMY
Other Telecommunications Equipment Data Sheet

Service: ARMY

P-1 Line Item: 87

Nomenclature: AUTODIN I (DCS)

Description/Mission: A Defense Communications Agency (DCA) managed program to provide a high speed digital switching network to handle secure data and teletype message traffic for the Department of Defense (DOD), the Military Departments, and designated government agencies worldwide. AUTODIN (Automated Digital Network) is a subsystem of the Defense Communication System (DCS).

Cost Data (\$ Mil):

	FY 1978		FY 1979		FY 1980	
	<u>Qty</u>	<u>Amt</u>	<u>Qty</u>	<u>Amt</u>	<u>Qty</u>	<u>Amt</u>
Weapons System Cost		6.6		4.5		6.4

Basis for FY 1980 Request: Provides for continuation of the AUTODIN I upgrade program for equipment acquisition and training at the AUTODIN training facility and six operational switching centers. It also provides for the NATO Integrated Communications System (NICS) Teletype Automatic Relay Equipment (TARE) interconnect with AUTODIN. Should the FY 1980 request be denied, the enhancement program to insure that all overseas switches are compatible and capable of handling increased data requirements of DOD users, will not be realized. The only alternative to the upgrade program would be to establish a separate dedicated system to parallel the existing AUTODIN, at a much higher cost.

OTHER PROCUREMENT, ARMY
Other Telecommunications Equipment Data Sheet

Service: Army

P-1 Line Item: 91

Nomenclature: Transmission Media

Description/Mission: Provides for expansion and upgrade of the Defense Communications System (DCS) long-haul telecommunications transmission systems worldwide, excluding the Defense Satellite Communications System (DSCS). The DCS provides transmission paths (channels) for voice and record message traffic worldwide on a common user basis, and on a point-to-point basis when justified.

Cost Data (\$ Mil):

	FY 1978		FY 1979		FY 1980	
	Qty	Amt	Qty	Amt	Qty	Amt
Weapons System Cost		10.1		11.0		6.5

Basis for FY 1980 Request: Provides for Digital European Backbone and digital upgrade for US forces employed in Europe. Denial of FY 1980 funds will result in slippage of conversion program (analog to digital) of the transmission links and allow these links to remain susceptible to exploitation by non-US elements. In addition, maintenance costs will increase as old and obsolete equipment remains in service.

OTHER PROCUREMENT, ARMY
Other Telecommunications Equipment Data Sheet

Service: ARMY

P-1 Line Item: 95 - 104

Nomenclature: Defense Satellite Communications System (DSCS)

Description/Mission: DSCS satisfies unique and vital command and control communications in support of National Command Authority, National Military Command System, Worldwide Military Command and Control System, Joint Chiefs of Staff, Diplomatic Telecommunications System, Defense Communications System, and intelligence and early warning requirements.

Cost Data (\$ Mil):

	FY 1978		FY 1979		FY 1980	
	<u>Qty</u>	<u>Amt</u>	<u>Qty</u>	<u>Amt</u>	<u>Qty</u>	<u>Amt</u>
Weapons System Cost		54.2		42.8		110.0

Basis for FY 1980 Request: Army provides ground terminals to support TRI-Service Requirements. FY 1980 program includes light and medium transportable terminals; communications and satellite control equipment; associated equipment to convert analog signals to digital signals and multiplexing of these digital signals; anti-jam equipment; and transmission interconnect equipment. Denial of FY 1980 funds will escalate costs of multi-year Army and related Air Force contracts; cause ground and space subsystem programs to become out of phase with one another; and completely interrupt the planning and resources of the Military Departments.

OTHER PROCUREMENT, ARMY
Other Telecommunications Equipment Data Sheet

Service: ARMY

P-1 Line Item: 105

Nomenclature: Tactical Satellite Communications (TAC SAT COM)

Description/Mission: The equipment consists of ground based single channel and multi-channel satellite communications terminals. Satellite capability will increase combat effectiveness through improved command control communications and will result in a significant reduction in conventional radio equipment.

Cost Data (\$ Mil):

	FY 1978		FY 1979		FY 1980	
	<u>Qty</u>	<u>Amt</u>	<u>Qty</u>	<u>Amt</u>	<u>Qty</u>	<u>Amt</u>
Weapons System Cost		9.3		71.1		30.8

Basis for FY 1980 Request: Provides for critical command and control communications for nuclear weapons storage sites located throughout the European and Pacific theaters. Should the FY 1980 request be denied, control of nuclear weapons will be dependent on marginal systems.

OTHER PROCUREMENT, ARMY
Other Telecommunications Equipment Data Sheet

Service: ARMY

P-1 Line Item: 108

Nomenclature: CMCS C-10377()/GTC

Description/Mission: The Communications Mode Control Selector (CMCS) is designed to provide the capability to switch between the voice and data modes in WINSON-secured tactical wideband radio nets shared by both voice and data users. The device provides a special keying and remoting capability for data users.

Cost Data (\$ Mil):

	FY 1978		FY 1979		FY 1980	
	Qty	Amt	Qty	Amt	Qty	Amt
Weapons System Cost	-0-	-0-	-0-	-0-	2089	4.0

Basis for FY 1980 Request: The CMCS is required to enable TACFIRE and other Army tactical data users to operate in shared voice/data nets in the secure mode. Without the CMCS, tactical data users would have to operate without communications security on FM radio nets, thus exposing vital command and control data to enemy exploitation.

Contract Data:

<u>Major Subsystem</u>	<u>Contractor</u>	<u>Type of Last Contract</u>
CMCS C-10377()/GTC	To Be Selected	None

Production Data:

	<u>FY 1978</u>	<u>FY 1979</u>	<u>FY 1980</u>	<u>FY 1981</u>	<u>FY 1982</u>
Funded	-0-	-0-	2089	XXXX	XXXX
Delivered	-0-	-0-	-0-	(124)	(1965)
<u>Inventory/Objective:</u>					
	<u>End FY 1978 FDP 1/</u>	<u>End FY 1979 FDP</u>	<u>End FY 1980 FDP</u>		

Force Units - DFE 2/

24

Inventory Objective

4805

On Hand/On Order

2089

% Inventory Objective
Achieved

43.5

1/ FDP = Funded Delivery Period
2/ DFE = Division Force Equivalent

OTHER PROCUREMENT, ARMY
Other Telecommunications Equipment Data Sheet

Service: ARMY

P-1 Line Item: 109

Nomenclature: Ded Loop Encryp Dev KG-84

Description/Mission: The Dedicated Loop Encryption Device, TSEC/KG-84, was developed under the TRI-TAC program to encrypt data and teletypewriter signals from dedicated (unswitched) AN/TTC-39 subscribers to a store and forward module. It is also intended to meet other point-to-point and netted record and data COMSEC requirements such as CRITICOM, WWMCCS, and DSCS.

Cost Data (\$ Mil):

	FY 1978		FY 1979		FY 1980	
	Qty	Amt	Qty	Amt	Qty	Amt
Weapons System Cost	25	.3	222	1.8	1037	8.6

Basis for FY 1980 Request: The KG-84 is required to encrypt certain circuits in both tactical (TRI-TAC) and strategic (WWMCCS, DSCS) communications and command and control systems for the Army and common users (DCS).

Contract Data:

<u>Major Subsystem</u>	<u>Contractor</u>	<u>Type of Last Contract</u>
Ded Loop Encryp Dev, KG-84	To Be Selected	None

Production Data:

	<u>FY 1978</u>	<u>FY 1979</u>	<u>FY 1980</u>	<u>FY 1981</u>	<u>FY 1982</u>
Funded	25	222	1037	XXX	XXXX
Delivered	-0-	-0-	(25)	(222)	(1037)

Inventory/Objective:

	<u>End FY 1978 FDP 1/</u>	<u>End FY 1979 FDP</u>	<u>End FY 1980 FDP</u>
Force Units - DFE 2/	XXXX	XXXX	24
Inventory Objective	XXXX	XXXX	6503
On Hand/On Order	25	247	1284
% Inventory Objective Achieved	0.4	3.8	19.7

1/ FDP = Funded Delivery Period
 2/ DFE = Division Force Equivalent

OTHER PROCUREMENT, ARMY
Other Telecommunications Equipment Data Sheet

Service: ARMY

P-1 Line Item: 112

Nomenclature: Electronic Key Generator, TSEC/KG-30

Description/Mission: General purpose full duplex, tactical, electronic key generator to secure teletypewriters, data, voice or facsimile signals for tactical and fixed station applications. Can be used with single channel or multichannel equipment, but primary use is single channel. Designed to secure point-to-point and netted communications systems.

Cost Data (\$ Mil):

	FY 1978		FY 1979		FY 1980	
	Qty	Amt	Qty	Amt	Qty	Amt
Weapons System Cost	849	6.9	536	4.7	455	4.3

Basis for FY 1980 Request: Provides tactical and strategic teletypewriters, data, voice or facsimile signals with security on a worldwide basis. Principal users are TACSATCOM, ASSIST, and USACC TELER Projects.

Contract Data:

<u>Major Subsystem</u>	<u>Contractor</u>	<u>Type of Last Contract</u>
TSEC/KG-30	To Be Selected	FFP

Production Data:

	<u>FY 1978</u>	<u>FY 1979</u>	<u>FY 1980</u>	<u>FY 1981</u>	<u>FY 1982</u>	<u>FY 1983</u>
Funded	849	536	455	XXXX	XXXX	XXXX
Delivered	575	(117)	(604)	(852)	(558)	(227)

Inventory/Objective:

	<u>End FY 1978 FDP 1/</u>	<u>End FY 1979 FDP</u>	<u>End FY 1980 FDP</u>
Force Units - DFE 2/	XXXX	XXXX	24
Inventory Objective	XXXX	XXXX	
On Hand/On Order	4283	4819	5274

3 Inventory Objective Achieved

1/ FDP - Funded Delivery Period
2/ DFE - Division Force Equivalent

OTHER PROCUREMENT, ARMY
Other Telecommunications Equipment Data Sheet

Service: ARMY

P-1 Line Item: 113

Nomenclature: Electronic Key Generator, TSFC/KG-45

Description/Mission: The KG-45 is a high speed full-duplex key generator which provides cryptographic security for both uplink and downlink data between a remote platform and a base station. The KG-45 can perform on-line enciphering and deciphering of serial, digital data at all data rates from 10 Kilobits/Sec to 20 Megabits/Sec in the high-risk, tactical operational environment.

Cost Data (\$ Mil):

	FY 1978		FY 1979		FY 1980	
	Qty	Amt	Qty	Amt	Qty	Amt
Weapons System Cost	250	1.9	-0-	-0-	756	5.9

Basis for FY 1980 Request: The KG-45 is required to provide secure data links for Army tactical SIGINT/EW systems, including TACJAM, LEFOX GREY, QUICK FIX, GUARDRAIL, CAC, and others. KG-45 is the only cryptographic key generator certified for these applications.

Contract Data:

<u>Major Subsystem</u>	<u>Contractor</u>	<u>Type of Last Contract</u>
Elec Key Gen, TSEC/KG-45	To Be Selected	FFP

Production Data:

	<u>FY 1978</u>	<u>FY 1979</u>	<u>FY 1980</u>	<u>FY 1981</u>	<u>FY 1982</u>	<u>FY 1983</u>
Funded	250	-0-	756	XXXX	XXXX	XXXX
Delivered	-0-	-0-	(100)	(150)	(200)	(556)

Inventory/Objective:

	<u>End FY 1978 FDP 1/</u>	<u>End FY 1979 FDP</u>	<u>End FY 1980 FDP</u>
Force Units - DFE 2/	XXXX	XXXX	24
Inventory Objective	XXXX	XXXX	1006
On Hand/On Order	250	250	1006
% Inventory Objective Achieved	24.9	24.9	100.0

1/ FDP = Funded Delivery Period
 2/ DFE = Division Force Equivalent

OTHER PROCUREMENT, ARMY
Other Telecommunications Equipment Data Sheet

Service: ARMY

P-1 Line Item: 114

Nomenclature: Elec Tran Dev, KYK-13/TSEC

Description/Mission: The electronic transfer device, KYK-13/TSEC, is a handheld, lightweight, battery operated device which is used to electronically load and transfer cryptographic variables for the TSEC/KY-57/58 (VINSON), TSEC/KY-65/75 (PARKHILL), TSEC/KG-45 (SANCHEZ), TSEC/KG-81, TSEC/KG-84, TSEC/KG-30, and other tactical and fixed plant communications security equipment.

Cost Data (\$ Mil):

	FY 1978		FY 1979		FY 1980	
	Qty	Amt	Qty	Amt	Qty	Amt
Weapons System Cost	6184	1.8	6259	1.8	9475	2.2

Basis for FY 1980 Request: The FY 1980 request will provide electronic transfer devices to perform the required periodic key changes for the numerous COMSEC systems/equipment which these devices support, including VINSON, PARKHILL, TRI-TAC, and several tactical SIGINT/EW systems.

Contract Data:

Major Subsystem	Contractor	Type of Last Contract
Elec Tran Dev, KYK-13/TSEC	1. MAGNAVOX 2. Honeywell	FPI

Production Data:

	<u>FY 1978</u>	<u>FY 1979</u>	<u>FY 1980</u>	<u>FY 1981</u>	<u>FY 1982</u>	<u>FY 1983</u>
Funded	6184	6259	9475	XXXX	XXXX	XXXX
Delivered	80	(884)	(5443)	(6000)	(6000)	(4498)

Inventory/Objective:

	<u>END FY 1978 FDP 1/</u>	<u>END FY 1979 FDP</u>	<u>END FY 1980 FDP</u>
Force Units - DFE 2/	XXXX	XXXX	24
Inventory Objective	XXXX	XXXX	56103
On Hand/On Order	7171	13430	22905
% Inventory Objective Achieved	12.8	23.9	40.8

1/ FDP = Funded Delivery Period
 2/ DFE = Division Force Equivalent

OTHER PROCUREMENT, ARMY
Other Telecommunications Equipment Data Sheet

Service: ARMY

P-1 Line Item: 116

Nomenclature: KEESEE, KGV-6/TSEC

Description/Mission: KEESEE is the user portion of the Position Locating Reporting System (PLRS), providing a secure transceiver, reporting and relay functions to a master unit (TSEC/KG-58) which performs centralized secure control functions for all participating PLRS user units. The PLRS is a tactical support system that will enhance ground, air, and amphibious operations, providing position location information on a real time basis.

Cost Data (\$ Mil):

	FY 1978		FY 1979		FY 1980	
	Qty	Amt	Qty	Amt	Qty	Amt
Weapons System Cost	-0-	-0-	-0-	-0-	1803	2.4

Basis for FY 1980 Request: The FY 1980 request will provide the initial fielding of this urgently required new capability. Position location and reporting is vital for targeting of artillery strikes and close air support, as well as for control of friendly forces.

Contract Data:

<u>Major Subsystem</u>	<u>Contractor</u>	<u>Type of Last Contract</u>
KEESEE, KGV-6/TSEC	To Be Selected	None

Production Data:

	<u>FY 1978</u>	<u>FY 1979</u>	<u>FY 1980</u>	<u>FY 1981</u>	<u>FY 1982</u>	<u>FY 1983</u>
Funded	-0-	-0-	1803	XXXX	XXXX	XXXX
Delivered	-0-	-0-	-0-	(10)	(1632)	(161)

Inventory/Objective:

	<u>END FY 1978 FDP</u>	<u>1/</u>	<u>END FY 1979 FDP</u>	<u>END FY 1980 FDP</u>
Force Units - DFE 2/	XXXX		XXXX	24
Inventory Objective	XXXX		XXXX	11799
On Hand/On Order	-0-		-0-	1803
% Inventory Objective Achieved	-0-		-0-	15.3

1/ FDP = Funded Delivery Period
 2/ DFE = Division Force Equivalent

OTHER PROCUREMENT, ARMY
Other Telecommunications Equipment Data Sheet

Service: ARMY

P-1 Line Item: 117

Nomenclature: Loop Key Gen, TSEC/KG-82

Description/Mission: The loop key generator, TSEC/KG-82, is used in the TRI-TAC system to provide the Central Office, AN/TTC-39, with the cryptography necessary to establish and maintain communications with secure subscriber terminals. The Central Office will use the KG-82 to encrypt/decrypt subscriber bound/originated traffic and signaling.

Cost Data (\$ Mil):

	FY 1978		FY 1979		FY 1980	
	Qty	Amt	Qty	Amt	Qty	Amt
Weapons System Cost	-0-	-0-	-0-	-0-	598	2.4

Basis for FY 1980 Request: The FY 1980 request will provide COMSEC equipment to support the initial fielding of the AN/TTC-39 (TRI-TAC) Central Office.

Contract Data:

<u>Major Subsystem</u>	<u>Contractor</u>	<u>Type of Last Contract</u>
Loop Key Gen, TSEC/KG-82	To Be Selected	None

Production Data:

	<u>FY 1978</u>	<u>FY 1979</u>	<u>FY 1980</u>	<u>FY 1981</u>	<u>FY 1982</u>
Funded	-0-	-0-	598	XXXX	XXXX
Delivered	-0-	-0-	-0-	-0-	(598)
<u>Inventory/Objective:</u>					
	<u>END FY 1978 FDP 1/</u>	<u>END FY 1979 FDP</u>	<u>END FY 1980 FDP</u>		
Force Units - DFE 2/	XXXX	XXXX	XXXX	XXXX	24
Inventory Objective	XXXX	XXXX	XXXX	XXXX	12267
On Hand/On Order	-0-	-0-	-0-	-0-	598
% Inventory Objective Achieved	-0-	-0-	-0-	-0-	4.9

1/ FDP = Funded Delivery Period
 2/ DFE = Division Force Equivalent

OTHER PROCUREMENT, ARMY
Other Telecommunications Equipment Data Sheet

Service: ARMY

P-1 Line Item: 120

Nomenclature: Sec Acc Term (SWAT) TA-978/G

Description/Mission: The Secure Wireline Access Terminal (SWAT), TA-978/G is a two-wire loop subscriber device which, when used with either the TSEC/KY-57 (VINSON) or TSEC/KY-38 (NESTOR), will provide signalling and secure voice and data communications over field wire and through Army inventory switchboards.

Cost Data (\$ Mil):

	FY 1978		FY 1979		FY 1980	
	Qty	Amt	Qty	Amt	Qty	Amt
Weapons System Cost	-0-	-0-	-0-	-0-	2250	5.0

Basis for FY 1980 Request: The SWAT is required to provide secure field telephone service to selected tactical subscribers who are connected with two-wire field telephones through inventory tactical switchboards. This is an integral part of the DOD effort to secure all critical tactical communications.

Contract Data:

<u>Major Subsystem</u>	<u>Contractor</u>	<u>Type of Last Contract</u>
Sec Acc Term (SWAT) TA-978/G	To Be Selected	None

Production Data:

	<u>FY 1978</u>	<u>FY 1979</u>	<u>FY 1980</u>	<u>FY 1981</u>	<u>FY 1982</u>	<u>FY 1983</u>
Funded	-0-	-0-	2250	XXXX	XXXX	XXXX
Delivered	-0-	-0-	-0-	-0-	(1370)	(880)

Inventory/Objective:

	<u>End FY 1978 FDP 1/</u>	<u>End FY 1979 FDP</u>	<u>End FY 1980 FDP</u>
Force Units - DFE 2/	XXXX	XXXX	24
Inventory Objective	XXXX	XXXX	2250
On Hand/On Order	-0-	-0-	2250
% Inventory Objective Achieved	-0-	-0-	100.0

1/ FDP = Funded Delivery Period
2/ DFE = Division Force Equivalent

OTHER PROCUREMENT, ARMY
Other Telecommunications Equipment Data Sheet

Service: ARMY

P-1 Line Item: 121

Nomenclature: Speech Security Equipment, TSEC/KY-57

Description/Mission: A half-duplex, wideband, tactical secure voice equipment designed for manpack and vehicular application. New microminiaturized light weight equipment to provide communications security to based on quantity required to secure AAO of PRC-25/77 and VRC-12 radios.

Cost Data (\$ Mil):

	FY 1978		FY 1979		FY 1980	
	Qty	Amt	Qty	Amt	Qty	Amt
Weapons System Cost	10012	37.4	12352	53.6	8148	36.5

Basis for FY 1980 Request: Provides security for voice/data transmissions on the AN/PRC-25/77 and VRC-12 radios. Ultimate goal is to secure all tactical communications.

Contract Data:

Major Subsystem

TSEC /KY-57

Contractor

1. MAGNAVOX
2. Honeywell

Type of Last Contract

FPI

Production Data:

	<u>FY 1978</u>	<u>FY 1979</u>	<u>FY 1980</u>	<u>FY 1981</u>	<u>FY 1982</u>
Funded	10012	12352	8148	XXXX	XXXX
Delivered	282	(1099)	(4381)	(20,400)	(6297)
<u>Inventory/Objective:</u>					
	<u>END FY 1978 FDP</u>		<u>END FY 1979 FDP</u>		<u>END FY 1980 FDP</u>
Force Units - DFE 2/	XXXX		XXXX		24
Inventory Objective	XXXX		XXXX		103798
On Hand/On Order	11393		23745		31893
% Inventory Objective Achieved	11.0		22.9		30.7

1/ FDP = Funded Delivery Period
2/ DFE = Division Force Equivalent

OTHER PROCUREMENT, ARMY
Other Telecommunications Equipment Data Sheet

Service: ARMY

P-1 Line Item: 122

Nomenclature: Speech Security Equipment, TSEC/KY-58

Description/Mission: Half-duplex, wideband secure voice equip designed for airborne tactical use. New micro/minia-turized light weight equipment to provide communications security to based on a quantity required of one COMSEC equipment per aircraft. This equipment is also required in some ground applications in the TRI-TAC program.

Cost Data (\$ Mil):

	FY 1978		FY 1979		FY 1980	
	Qty	Amt	Qty	Amt	Qty	Amt
Weapons System Cost	1926	5.1	3493	15.8	3345	14.8

Basis for FY 1980 Request: Provides security for aircraft radios and certain ground installations.
Ultimate goal is to secure all tactical communica-tions.

Contract Data:

<u>Major Subsystem</u>	<u>Contractor</u>	<u>Type of Last Contract</u>
TSEC/KY-58	1. MAGNAVOX 2. Honeywell	FPI

Production Data:

	<u>FY 1978</u>	<u>FY 1979</u>	<u>FY 1980</u>	<u>FY 1981</u>	<u>FY 1982</u>
Funded	1926	3493	3345	XXXX	XXXX
Delivered	77	(283)	(841)	(5016)	(2964)

Inventory/Objective:

	<u>End FY 1978 FDP 1/</u>	<u>End FY 1979 FDP</u>	<u>End FY 1980 FDP</u>
Force Units - DFE 2/	XXXX	XXXX	24
Inventory Objective	XXXX	XXXX	19745
On Hand/On Order	2343	5836	9181
% Inventory Objective Achieved	11.9	29.6	46.5

1/ FDP = Funded Delivery Period
 2/ DFE = Division Force Equivalent

OTHER PROCUREMENT, ARMY
Other Telecommunications Equipment Data Sheet

Service: ARMY

P-1 Line Item: 126

Nomenclature: Tnk Encryp Dev, TSEC/KG-81

Description/Mission: The Trunk Encryption Device, TSEC/KG-81, is a general purpose full-duplex Key Generator used primarily for bulk encryption of multichannel traffic. In TRI-TAC applications, the KG-81 will encrypt trunk group traffic between circuit switches, traffic between loop group multiplexers and the circuit switch, and traffic between the circuit and store and forward message switches. In strategic communications applications, the KG-81 will encrypt trunk group traffic between DCS switching centers, at rates up to 20 Megabits/Sec.

Cost Data (\$ Mil):

	FY 1978		FY 1979		FY 1980	
	Qty	Amt	Qty	Amt	Qty	Amt
Weapons System Cost	-0-	-0-	27	.4	465	8.1

Basis for FY 1980 Request: Required to provide bulk encryption of high-volume voice and data circuits in the tactical (TRI-TAC) and strategic (Defense Satellite Communications System and Washington Area Wideband System) communications programs. No other Key Generator is capable of encrypting multichannel communications at the high data rates of these systems.

Contract Data:

<u>Major Subsystem</u>	<u>Contractor</u>	<u>Type of Last Contract</u>
Tnk Encryp Dev, TSEC/KG-81	To Be Selected	C/PIF

Production Data:

	<u>FY 1978</u>	<u>FY 1979</u>	<u>FY 1980</u>	<u>FY 1981</u>	<u>FY 1982</u>
Funded	-0-	27	465	XXXX	XXXX
Delivered	-0-	(256)	(350)	(135)	(7)

Inventory/Objective:

	<u>END FY 1978 FDP</u> <u>1/</u>	<u>END FY 1979 FDP</u>	<u>END FY 1980 FDP</u>
Force Units - DFE <u>2/</u>	XXXX	XXXX	24
Inventory Objective	XXXX	XXXX	6503
On Hand/On Order	256	283	748
% Inventory Objective Achieved	3.9	4.4	11.5

1/ FDP = Funded Delivery Period

2/ DFE = Division Force Equivalent

OTHER PROCUREMENT, ARMY
Other Telecommunications Equipment Data Sheet

Service: ARMY

P-1 Line Item: 131

Nomenclature: Base Communications (FORSCOM)

Description/Mission: Equipment for new installations, improvements, and expansion of administrative telephone switching exchanges and other non-tactical telecom terminals at posts, camps and stations in the 50 United States and Panama.

Cost Data (\$ Mil):

	FY 1978		FY 1979		FY 1980	
	<u>Qty</u>	<u>Amt</u>	<u>Qty</u>	<u>Amt</u>	<u>Qty</u>	<u>Amt</u>
Weapons System Cost		0		12.5		6.6

Basis for FY 1980 Request: Provides resources such as microwave and switching equipment for U.S. Forces telecommunications requirements in support of the Panama Canal Treaty directed/driven relocations. Denial of FY 1980 funds will cause non-compliance with treaty requirements to relocate, consolidate, and reconfigure existing communications systems.

OTHER PROCUREMENT, ARMY
Other Telecommunications Equipment Data Sheet

Service: ARMY

P-1 Line Item: 132

Nomenclature: Base Communications (EUCOM)

Description/Mission: Equipment for new installations, improvements and expansion of administrative telephone switching exchanges and other non-tactical telecom terminals at posts, camps and stations in Europe.

Cost Data (\$ Mil):

	FY 1978		FY 1979		FY 1980	
	<u>Qty</u>	<u>Amt</u>	<u>Qty</u>	<u>Amt</u>	<u>Qty</u>	<u>Amt</u>
Weapon System Cost		0		6.9		17.5

Basis for FY 1980 Request: Provides European Telephone System switch upgrade to replace present prewar technology telephone switching equipment installed following World War II, and post radio system upgrades. Continued degradation of the old system, manpower intensive, and difficult to maintain equipment necessitates upgrade with new technology. Denial of FY 1980 funds will directly affect readiness, ability of commands in Europe to carry out their missions, and mobilization of forces in alert situations.

OTHER PROCUREMENT, ARMY

Section 7

Analysis of Unobligated Balances

5-97 - 1/22/79

OTHER PROCUREMENT, ARMY

Analysis of Unobligated Balances - FY 1980 Program*

Category	Estimated Unobligated Dollars (Millions)	% of Total Unobligated
1. Reserved to support contracts	357.2	66.9
2. Engineering Changes	61.9	11.6
3. Other	114.8	21.5
	<u>533.9</u>	<u>100%</u>

Total Unobligated FY 1980

Based on past experience, it is predicted that the above amounts will remain unobligated at the end of FY 80. Reasons for the unobligated balance have been grouped into three general categories, and are detailed below. These unobligated amounts will therefore be required in subsequent fiscal years to complete the procurement of the FY 80 program.

1. Reserved to Support Contracts:
 - a. Held pending award of firm contracts as opposed to letter orders.
 - b. Amounts reserved for incentive contract payments.
 - c. Reimbursements to be made to the Army Stock Fund for short leadtime materiel purchased as Government-furnished equipment for producers.
 - d. Amounts held to support Product and Component Improvement Programs; modification for retrofit during production; modifications ordered by customers.
 - e. Contractor claims, reserves to cover potential liabilities for contracts containing escalation clauses for labor or material cost increases and price redeterminations.
 - f. Contract for close-out costs; packing, crating, handling and packaging and loading charges.
 - g. Government-furnished equipment breakout procurements; federal excise tax and sales tax payments; preparation of manuals and technical data; and reserve for completion of construction elements of production base support facilities projects.
 - h. Delay due to design or testing difficulties.
 - i. Award protests.
 - j. Insufficient procurement detail involving reimbursable orders.
 - k. Develop adequate competitive procurement or technical data package.
 - l. Items released to Army by other customers too late to permit obligation in FY 1980.

*Includes estimated FY 79 carry-over and other customer reimbursable programs.

OTHER PROCUREMENT, ARMY (Continued)

2. Engineering Changes:

- a. Engineering costs in support of production (obligated only as expenses are incurred).
- b. Validated engineering change orders to be incorporated into the current manufacturing process.
- c. Engineering changes as a result of acceptance testing, destructive and proving ground tests.
- d. Amounts reserved to support engineering change proposals and value engineering proposals.

3. Other:

- a. Changes to the previously planned method of procurement (i.e., competitive in lieu of sole source).
- b. Extension to bid opening dates.
- c. Additional time required to complete audits of cost data and to obtain contractor cost data.
- d. Unfavorable pre-award surveys and extended negotiations.
- e. Held pending validation of production capability of low bidder.
- f. Attaining a satisfactory production rate prior to awarding additional work.

Program and Financing Schedule and Object
Classification Schedule for the Procurement
of Equipment and Missiles, Army appropriation.

6-i - 1/22/79

Army

Procurement of Equipment and Missiles, Army

Program and Financing (in thousands of dollars)

Identification code	21-2030-0-1-051	Budget plan (amounts for procurement actions programmed)		Obligations	
		1978 actual	1979 est.	1978 actual	1979 est.
Relation of obligations to outlays:					
71.00	Obligations incurred, net			47,374	18,826
72.40	Obligated balance, start of year			-18,826	-826
74.40	Obligated balance, end of year			-10,724	
77.00	Adjustments in expired accounts				
90.00	Outlays			17,824	10,000
					8,000

Outlays

DISTRIBUTION

HAC
SAC
HASC
SASC
HBC
SBC
CBC
ASD(C)
ASD(DFOISR)
ASA(IL&FM)
ASA(RDA)
ASA(M&RA)
DACS-DC
DACS-BMZ-A
DACS-DP
DACA-BUB
DACA-BUS
DACA-BUR
DACA-BU
DAAG-OPZ-D
DAAC-RM-BB
OCLL

DAMI
DAMO
DAPE
DAMA-PP
DAMA-PPP
DAMA-PPC
DAMA-PPR
DAMA-PPT
DAMA-WS
DAMA-WSA
DAMA-WSM
DAMA-WSW
DAMA-CS
DAMA-CSC-B
DAMA-CSM
DAMA-CSS
DALO
DAEN-ZCE
DAMH
NGB
DAAR
DASG
NAVY
AIR FORCE